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Webinar Series for
Comprehensive Plan Updates

Water Resources Planning

Presented by Kyle Colvin, Karen Jensen, and Lanya Ross
July 21, 2016

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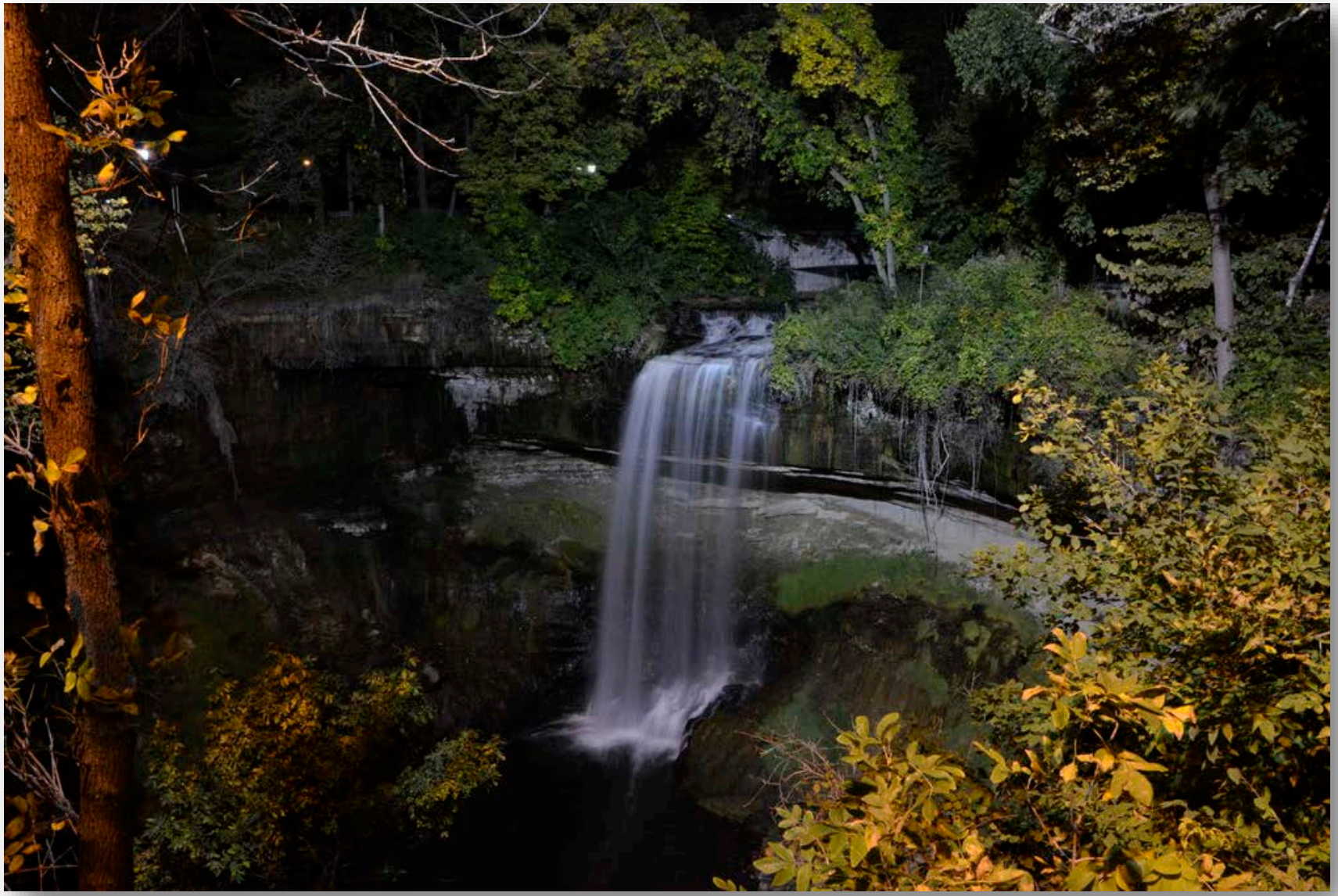

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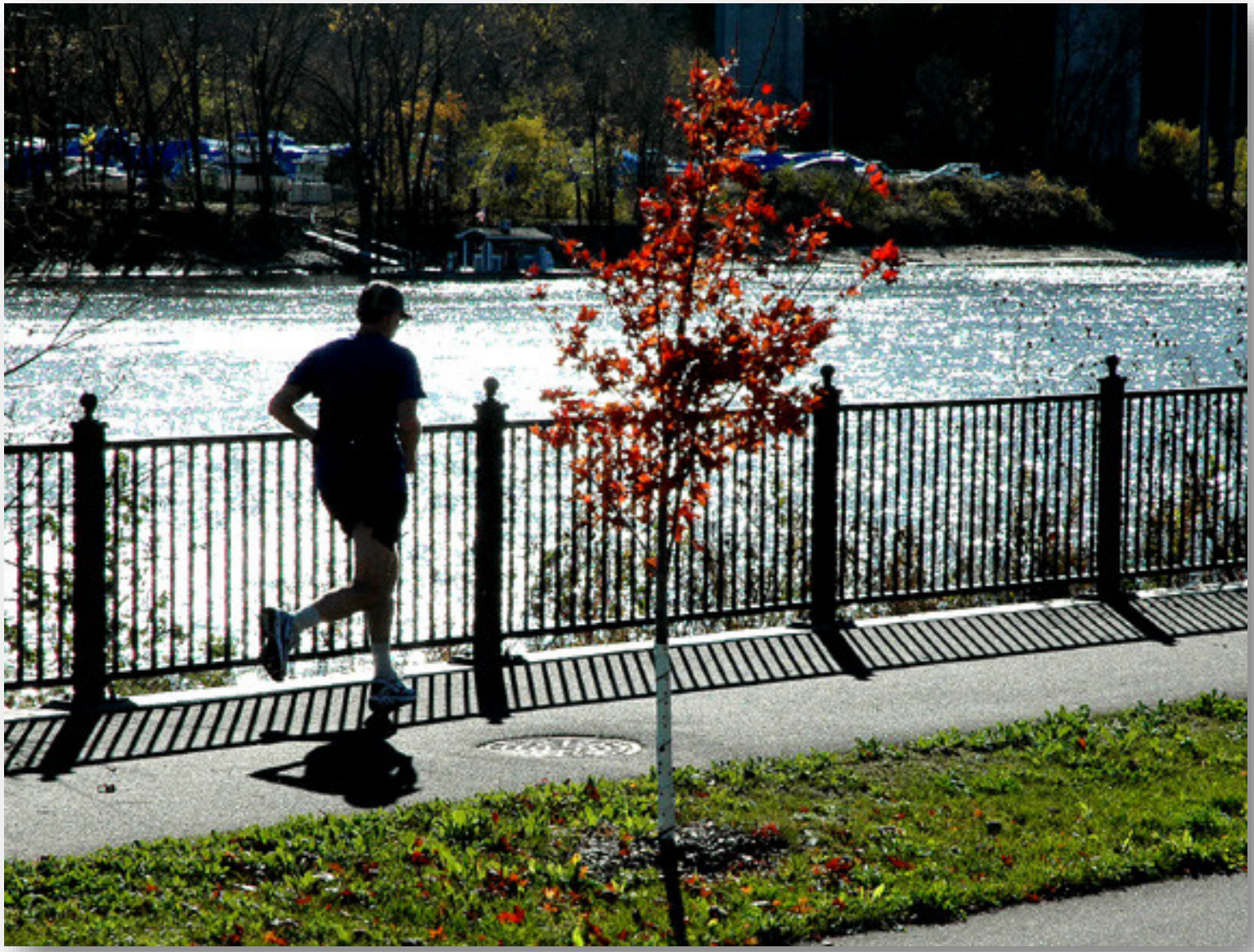

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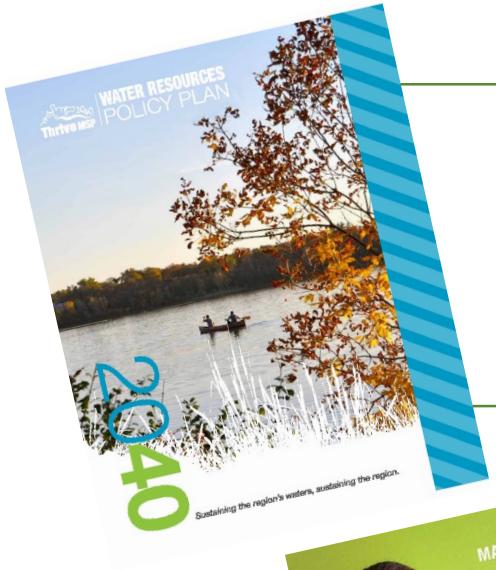

Wastewater

Surface Water

Water Supply

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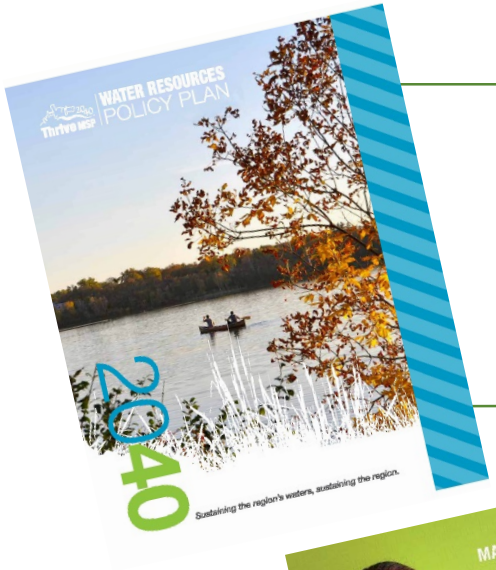

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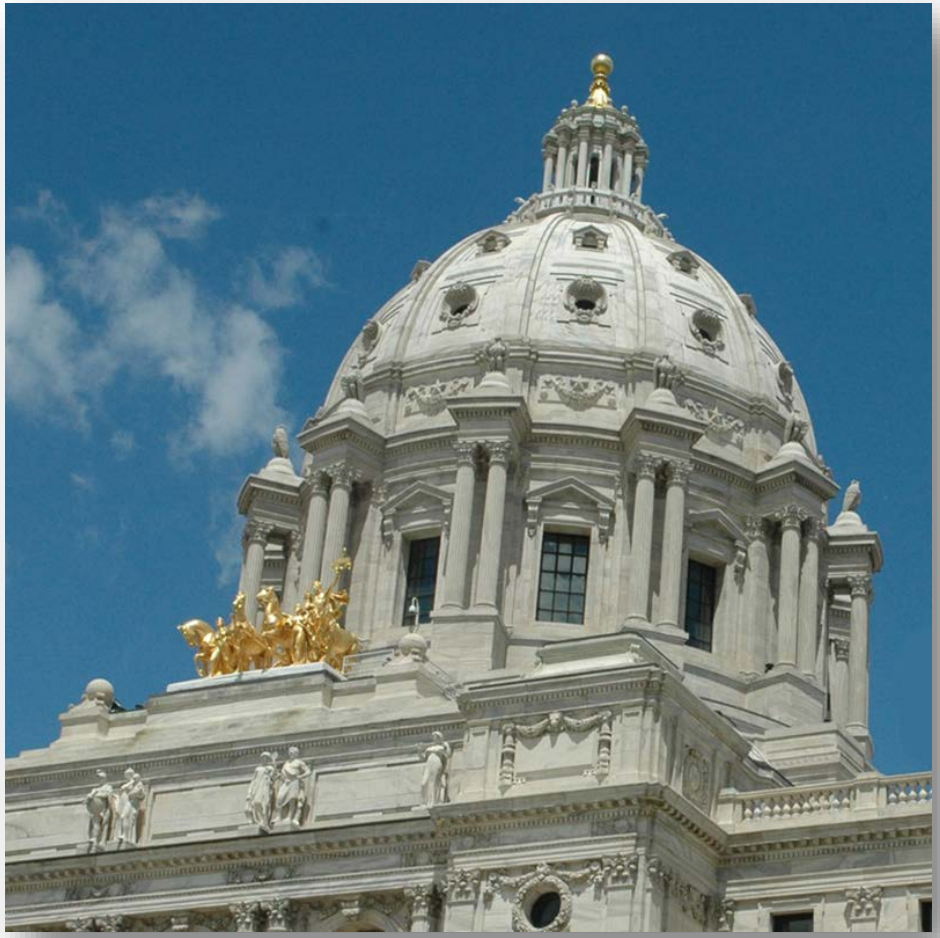

- MN Stat. 473.146
  - Policy Plans for Metropolitan Agencies
- MN Stat. 473.513
  - Municipal Plans and Programs
- MN Stat. 473.858
  - Comprehensive Plans; Local Governmental Units

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Wastewater Requirements

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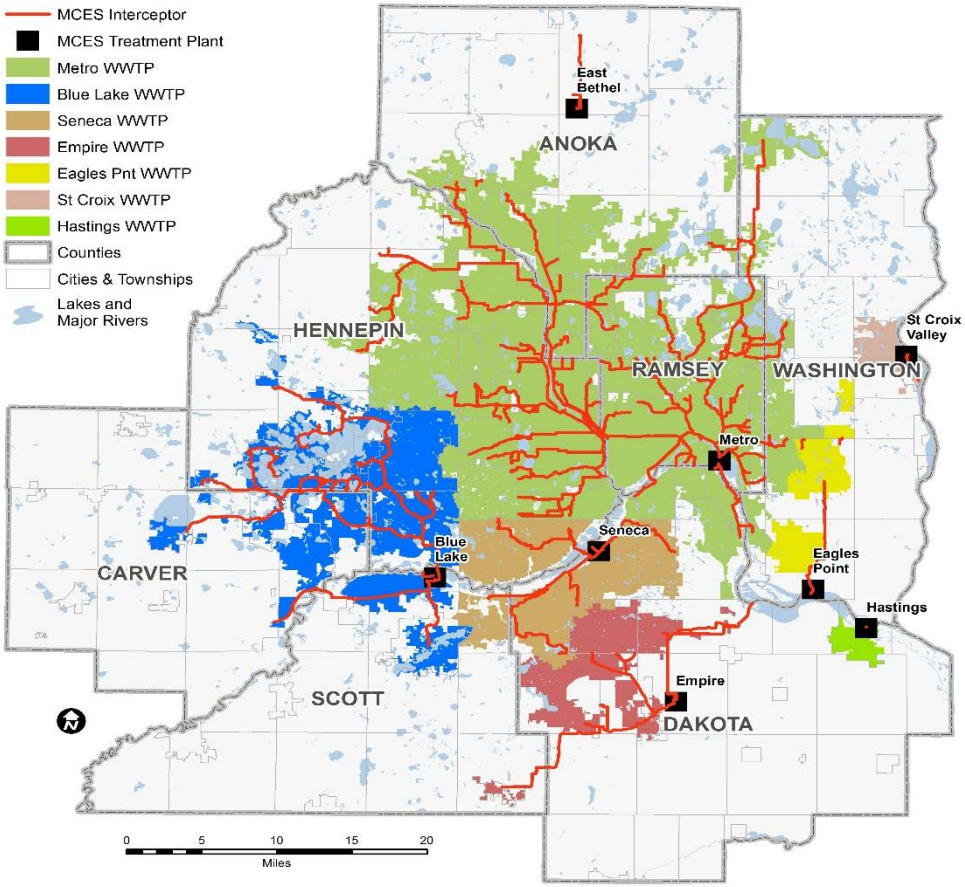
Areas Served by the Regional System



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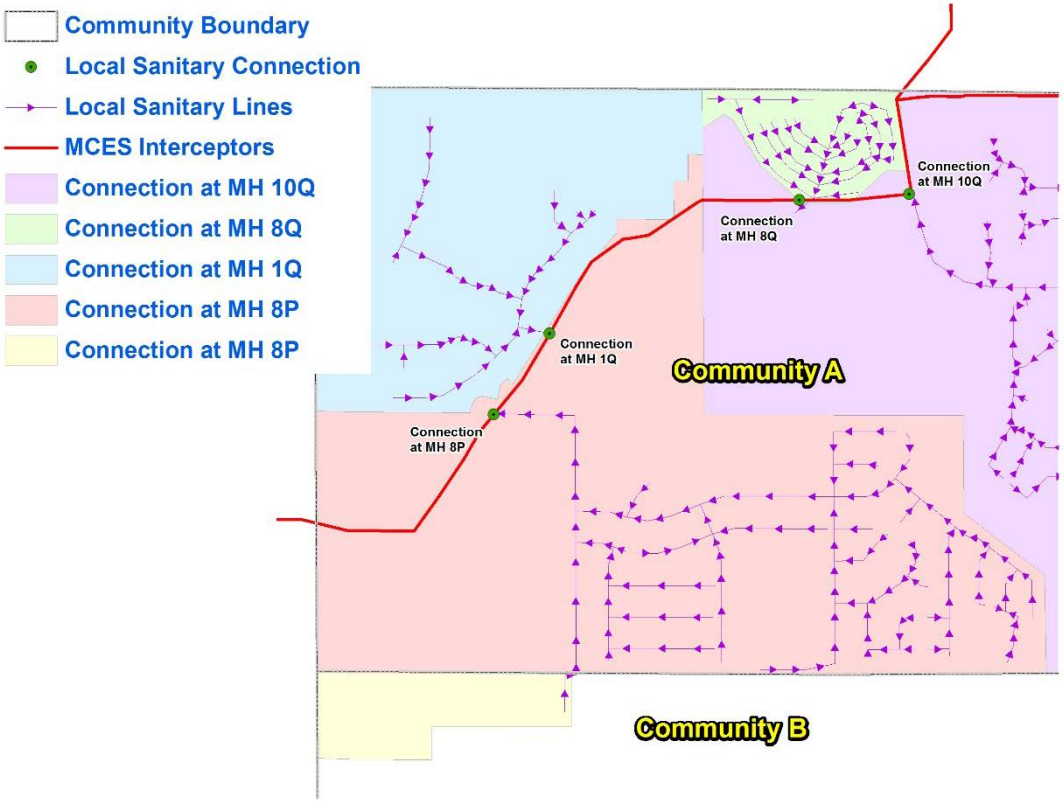
Adopted Community Sewered Forecasts

	2020	2030	2040
TOTAL			
HOUSEHOLDS	**1,500**	**3,000**	**4,700**
EMPLOYMENT	**4,900**	**5,300**	**6,000**
SEWERED			
HOUSEHOLDS	1,000	2,600	4.400
EMPLOYMENT	4,600	5,100	5,900
UNSEWERED			
HOUSEHOLDS	500	400	300
EMPLOYMENT	300	200	100

Local Connection Points to the Regional System



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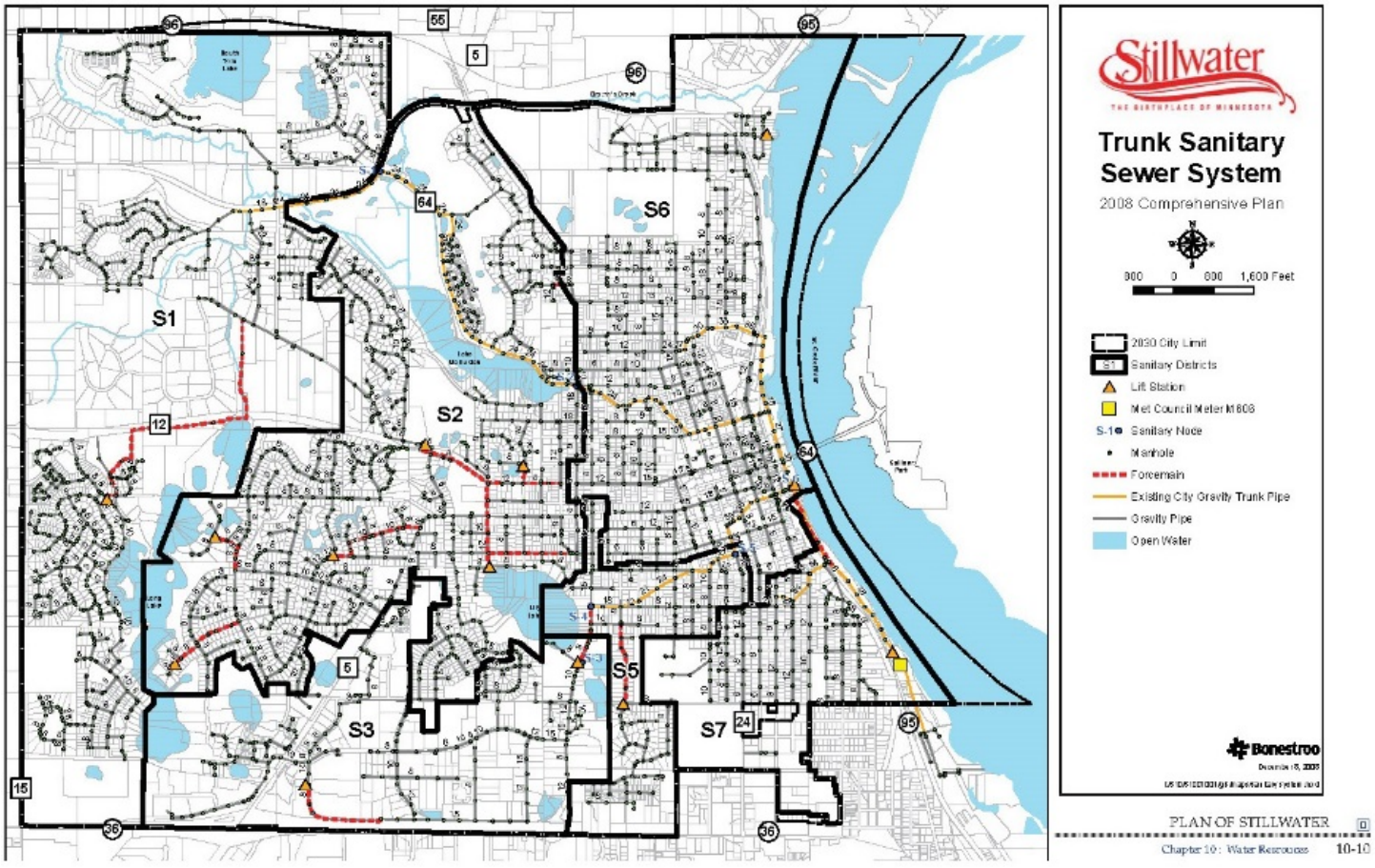
Areas Served by the Regional System

Local Sanitary Sewer System Map

Figure 10.1 : Trunk Sewer System Map



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Sanitary Sewer System Information Tables

	WASTEWATER FLOW PROJECTIONS by INTERCEPTOR CONNECTION POINT				
YEAR	9004-1	900415	900430 (Point A)	900430 (Point B)	TOTAL
2020	3.3	1.0	0.9	0.7	5.9
2030	3.8	1.4	1.0	0.8	7.0
2040	4.6	1.4	1.0	0.8	7.8

Flow in Million Gallons Per Day

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Sanitary Sewer System Information Tables

APPENDIX D - PIPE CAPACITIES FOR THE ULTIMATE SYSTEM

From Point	To Point	Design Flow (MGD)	Exist./ Proposed	Existing Pipe Size (in)	Parallel Pipe Size (in)	Pipe Material	Length (ft)	Upstream Elev. (ft)	Downstream Elev. (ft)	Slope (%)	CAPACITY Inlet Control (cfs)	Inlet Control (MGD)	Outlet Control (cfs)	Outlet Control (MGD)	Capacity (MGD)	Capacity/ Design Flow*
Medina System to Elm Creek Interceptor																
276	271	1.84	Proposed	12" FM		PVC	5200	965	979.83	--	--	--	--	--	--	--
274	271	2.56	Exist.	8		PVC	299	979.83	978.66	0.39	1.4	0.90	0.8	0.49	0.49	0.19
271	267	2.56	Exist.	10	15	PVC	970	978.66	975.75	0.30	1.7	1.10	1.2	0.78	0.78	0.30
267	257	4.47	Exist.	15	18	PVC	3621	975.59	969.30	0.17	4.1	2.65	2.7	1.74	1.74	0.39
257	250	5.30	Exist.	21	18	RCP	2848	969.30	966.10	0.11	9.1	5.88	5.2	3.33	3.33	0.63
250	238	5.81	Exist.	24		RCP	4256	966.30	961.26	0.12	13.0	8.40	7.8	5.04	5.04	0.87
238	237	6.03	Exist.	24		RCP	3923	961.26	954.82	0.16	13.0	8.40	9.2	5.93	5.93	0.98
256	257	0.53	Exist.	10		PVC	1576	975.87	969.33	0.41	1.7	1.10	1.4	0.91	0.91	1.71
275	267	2.31	Proposed	12" FM		PVC	10400	940	975.59	--	--	--	--	--	--	--
251	252	0.15	Exist.	10		PVC	205	978.44	977.27	0.57	1.7	1.10	1.7	1.07	1.07	7.19
252	250	0.15	Exist.	10		PVC	3477	969.10	966.50	0.08	1.7	1.10	0.6	0.40	0.40	2.70
220	223	0.04	Exist.	12		PVC	379	976.84	967.16	2.55	2.2	1.42	5.7	3.69	1.42	36.04
223	226	0.69	Exist.	12		PVC	616	967.16	960.24	1.12	2.2	1.42	3.8	2.44	1.42	2.05
226	235	0.75	Exist.	12		PVC	200	960.24	954.50	2.87	2.2	1.42	6.0	3.91	1.42	1.90
239	237	0.32	Exist.	12		PVC	3691	968.77	960.35	0.23	2.2	1.42	1.7	1.10	1.10	3.47
237	236	6.68	Exist.	24		PVC	2497	968.04	958.39	0.39	13.0	8.40	14.1	9.10	8.40	1.26
236**	235	6.79	Exist.	27		PVC	4200	955.63	942.43	0.31	17.7	11.43	17.4	11.24	11.24	1.66
235**	234	7.71	Exist.	27		PVC	3400	942.43	933.27	0.31	17.7	11.43	17.3	11.16	11.16	1.44
Morningside																
322	Orono	0.19	Exist.	8		PVC	1130	1039.54	1034.80	0.42	1.4	0.90	0.8	0.51	0.51	2.67
Lake Independence																
134	123	0.21	Exist.	8		PVC	8163	1035.40	1012.42	0.28	1.4	0.90	0.6	0.42	0.42	2.02
123	112	0.24	Exist.	10		PVC	3940	1012.42	980.34	0.81	1.7	1.10	2.0	1.28	1.10	4.62
112	108	0.35	Exist.	15		PVC	655	980.34	979.06	0.20	4.1	2.65	2.9	1.85	1.85	5.34

*Capacity to Design Flow ratio based on capacity of existing pipe. Proposed parallel pipe provides a ratio greater than 1.0 as a primary design criterion for the paral

** Indicates Elm Creek Interceptor segments

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Municipal or Private Wastewater Treatment Facilities

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Regional Wastewater System
Long Term Service Areas

- MCES Treatment Plant
- Future WWTP Site
- Gravity
- Forcemain
- Siphon
- Outfall
- Lakes and Rivers

Long Term Service Area

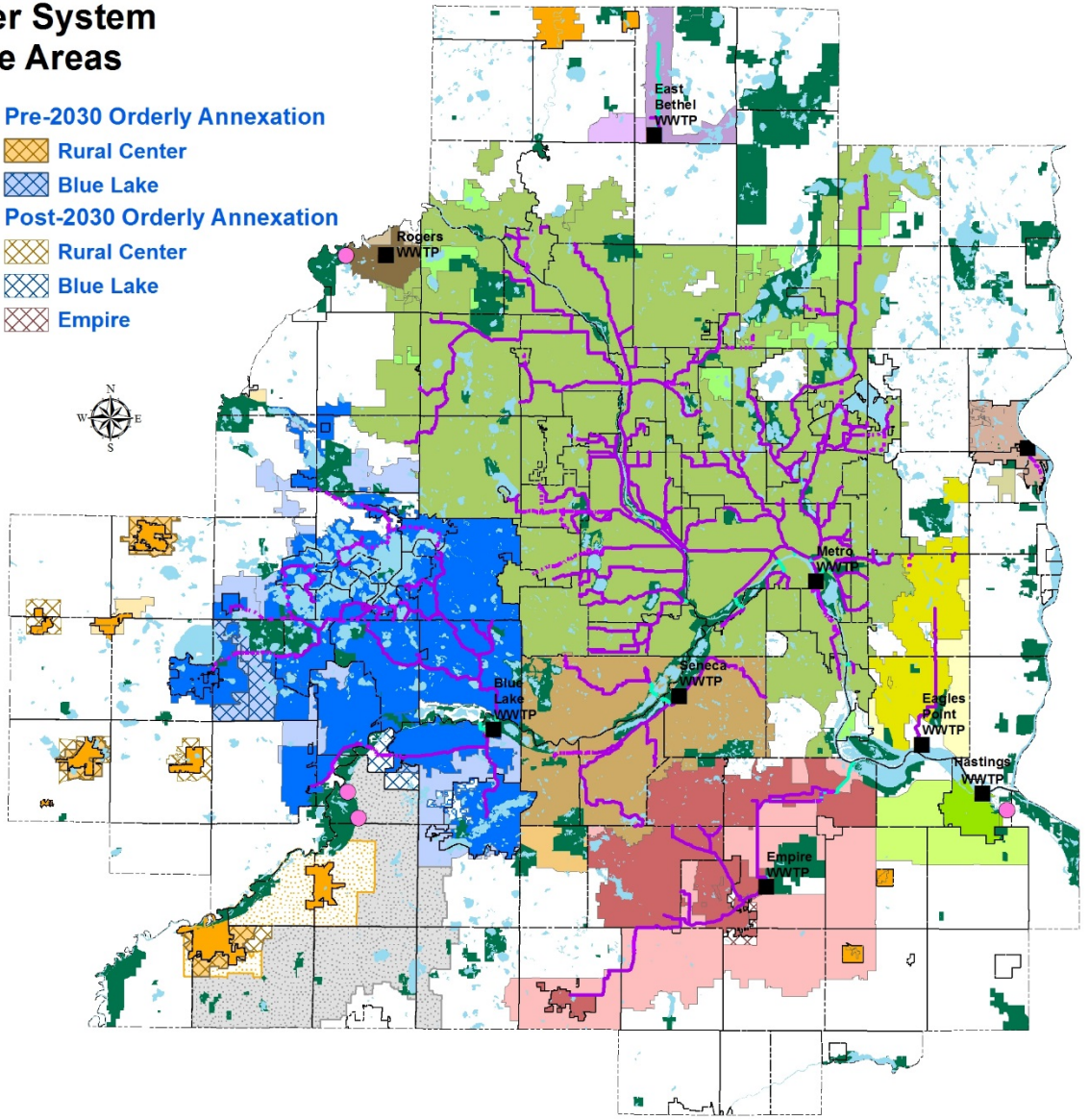
- Rural Center
- Potential Rural Center
- Metro
- Potential Metro
- Blue Lake
- Potential Blue Lake
- SMSC Area
- Scott Co. Rural Center Expansion
- Scott Co. Urban Expansion
- Seneca
- Potential Seneca
- Empire
- Potential Empire
- Eagles Point
- Potential Eagles Point
- St Croix Valley
- Potential St Croix
- Hastings
- Potential Hastings
- Rogers
- Potential Rogers
- East Bethel
- Potential East Bethel

Pre-2030 Orderly Annexation

- Rural Center
- Blue Lake

Post-2030 Orderly Annexation

- Rural Center
- Blue Lake
- Empire



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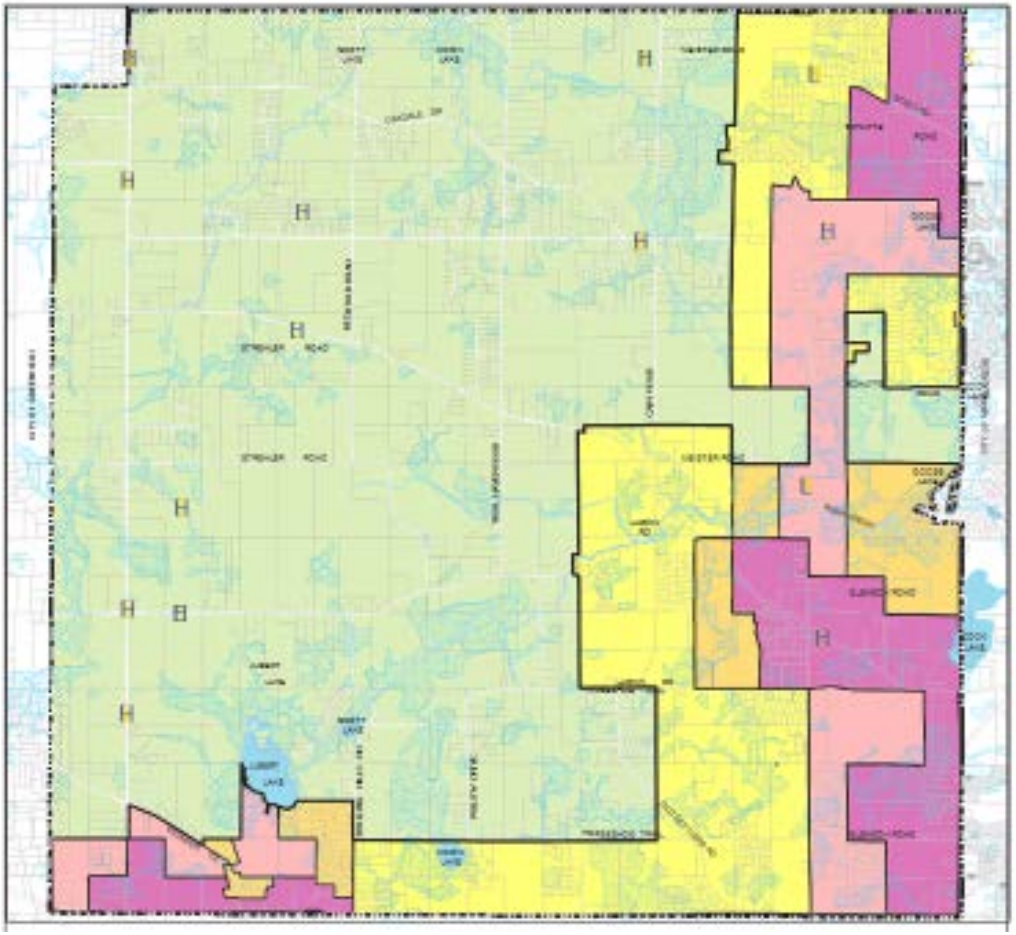
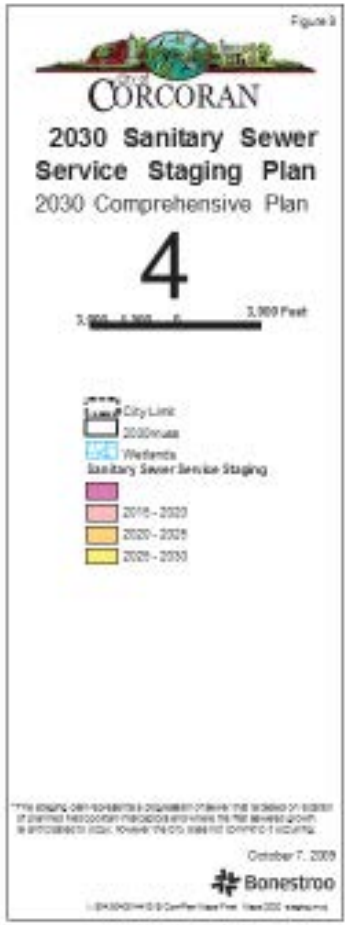
Areas Served by the Regional System

Growth Staging





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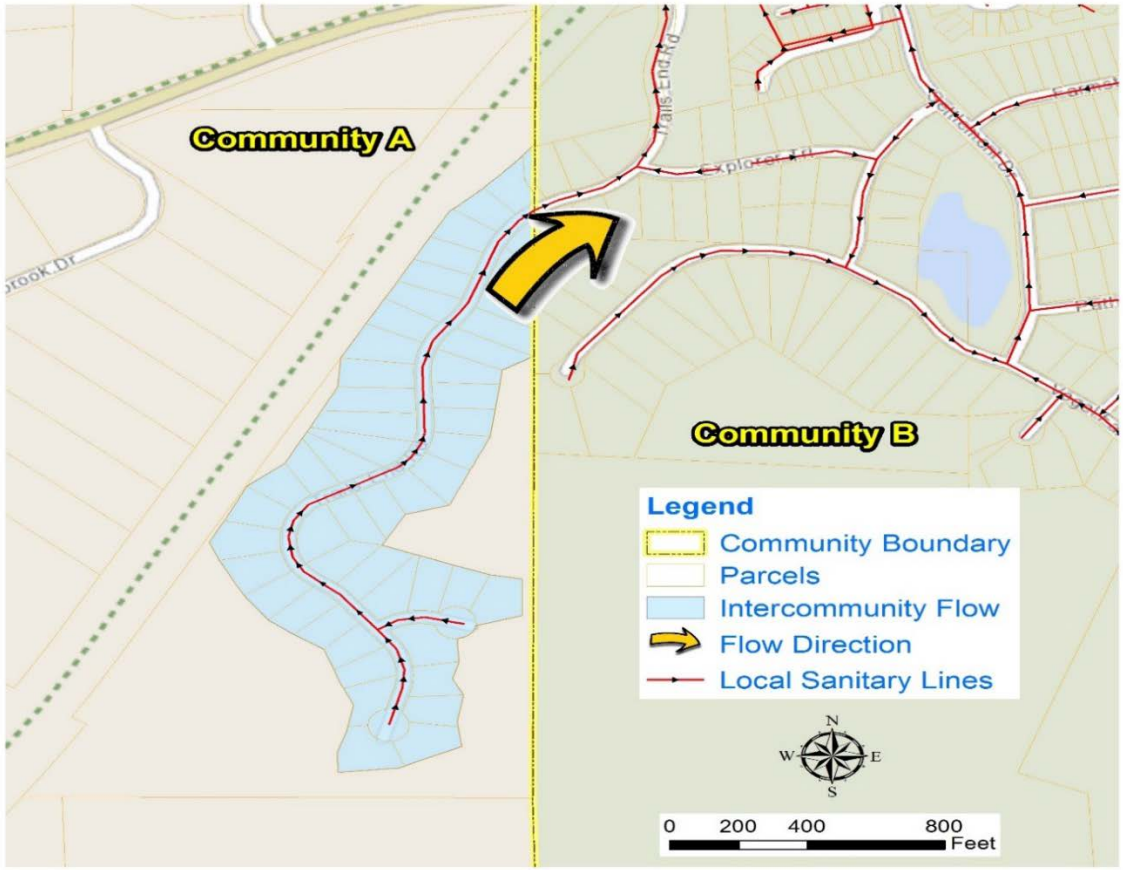
Intercommunity Service Agreements



Preventing and Reducing Inflow and Infiltration

- ✓Program strategy
- ✓Priorities
- ✓Scheduling
- ✓Financing mechanisms

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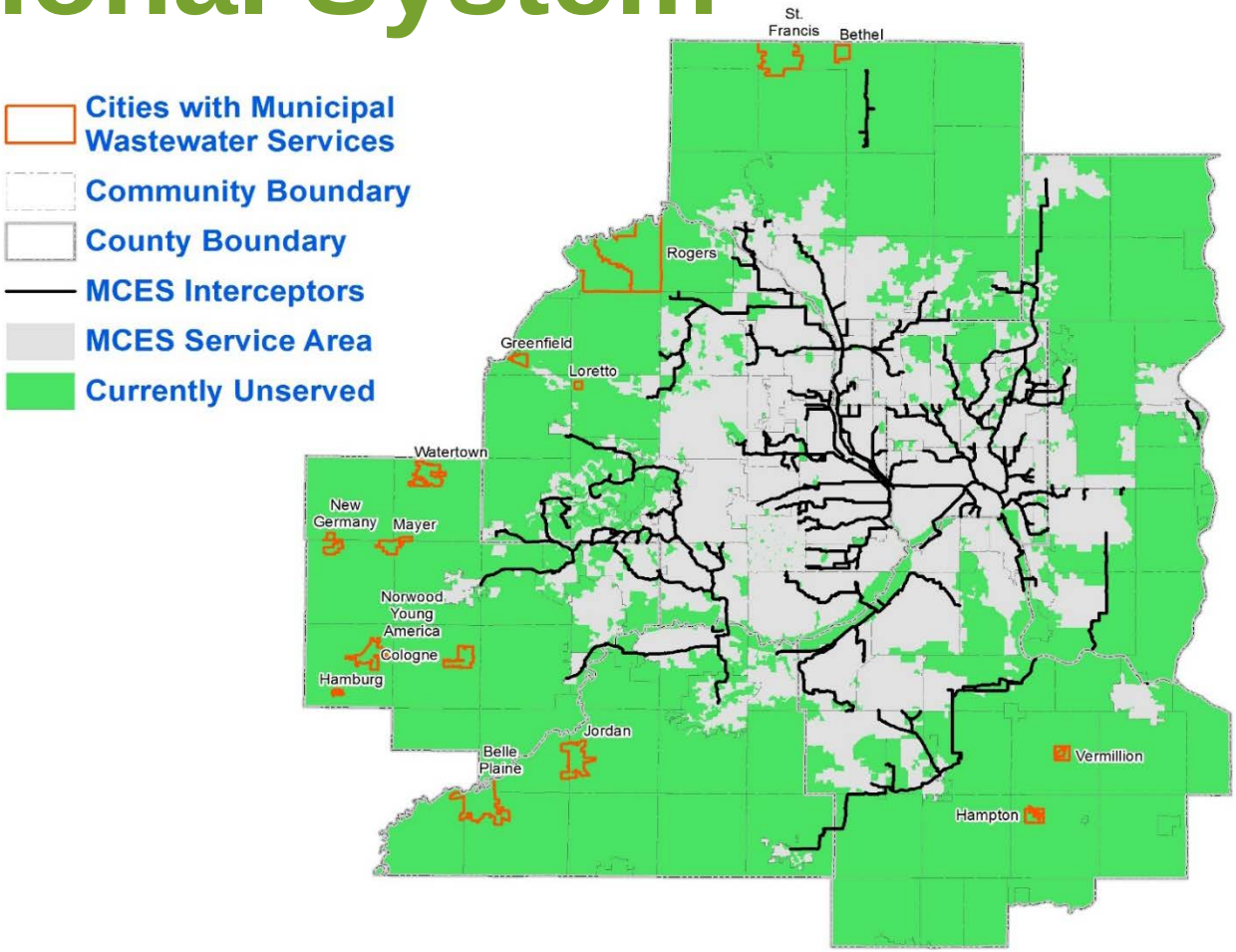
Areas Not Served by the Regional System



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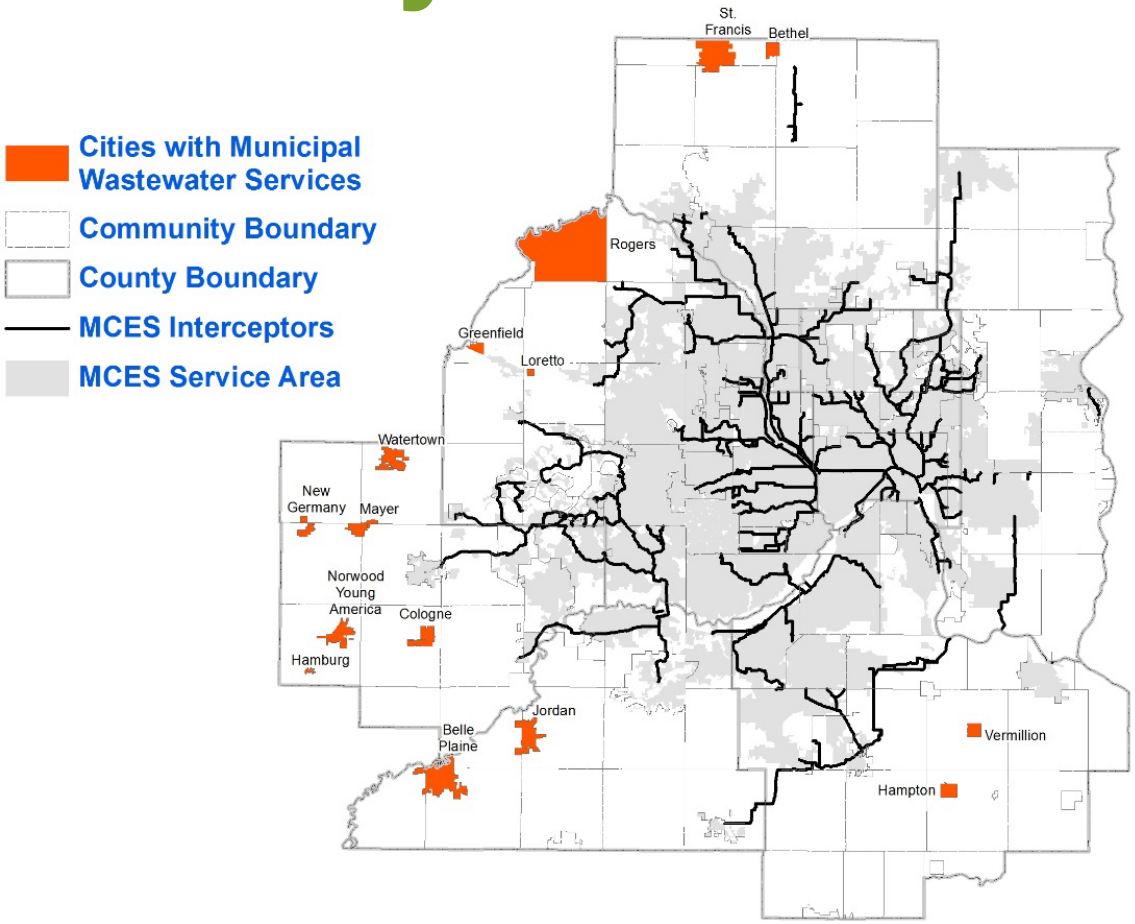
Areas Served by Local Treatment Systems



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Areas Not Served by the Regional System

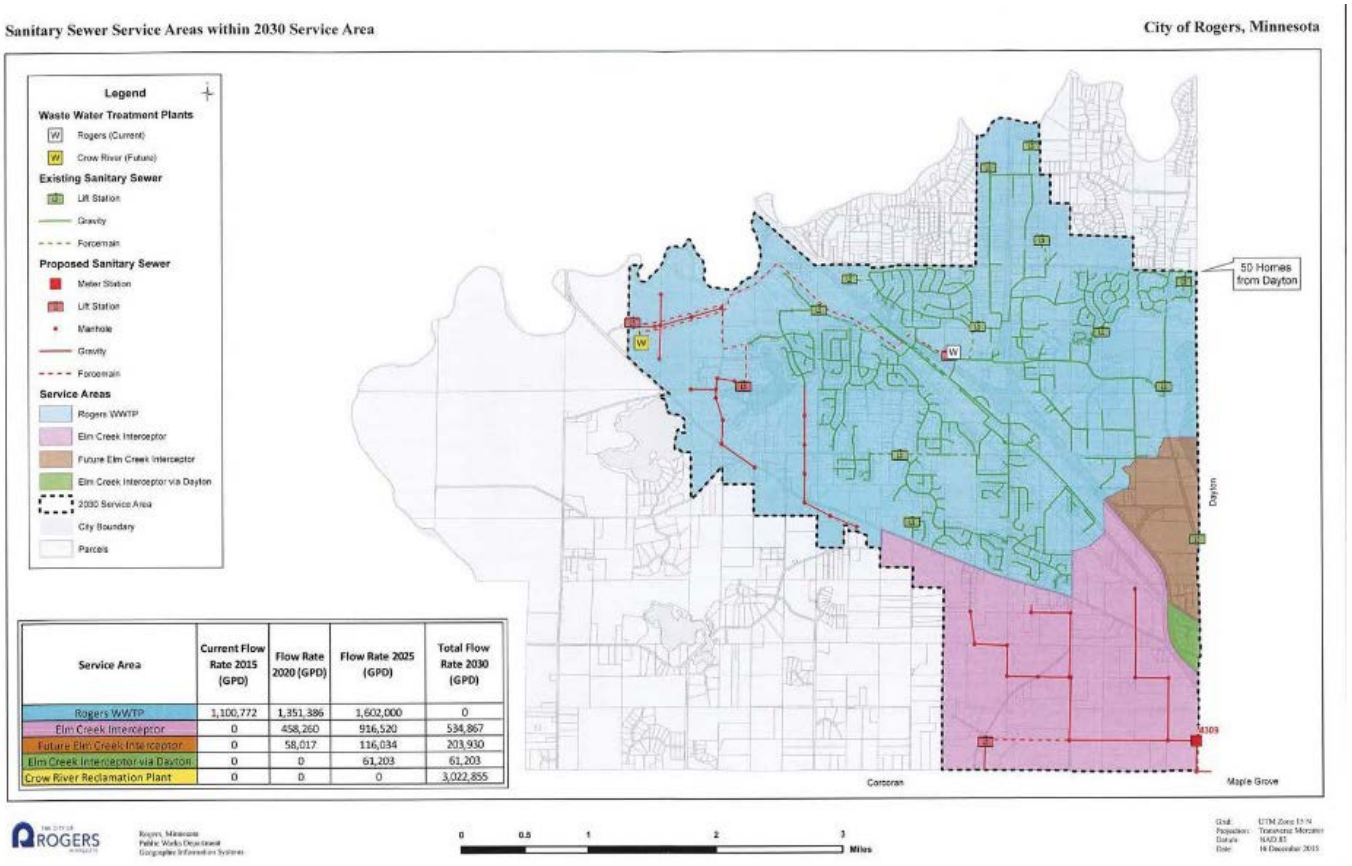
Capacity and Existing Flow

	2010	2020	2030	2040
FLOW	5.7	7.2	9.5	11.0
FACILITY CAPACITY	10.0	10.0	10.0	10.0

Flow in Million Gallons Per Day

Areas Not Served by the Regional System

Local Sanitary Sewer System Map



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Non-Municipal Communal Treatment Systems

All Communities

Subsurface Treatment Systems

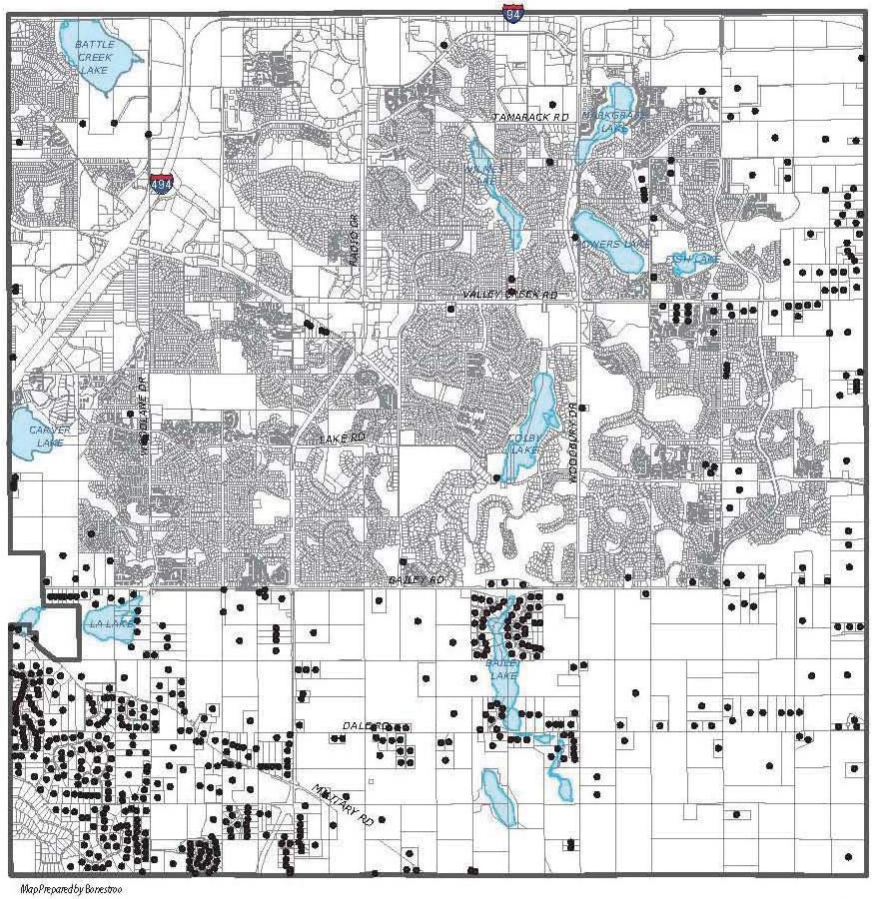

Figure 10-2: Individual System Location Map

Woodbury 2030 Comprehensive Plan

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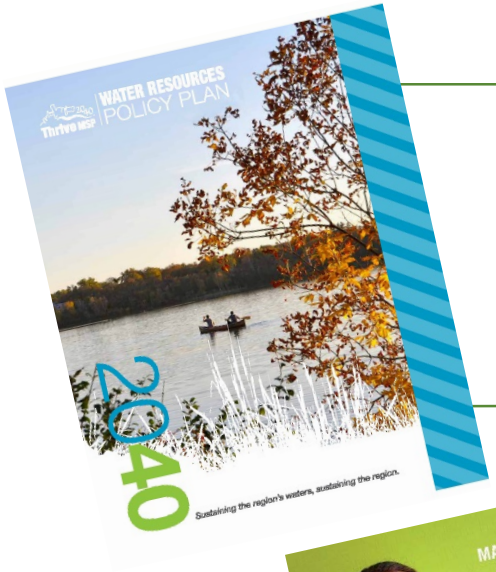

Wastewater

Surface Water

Water Supply

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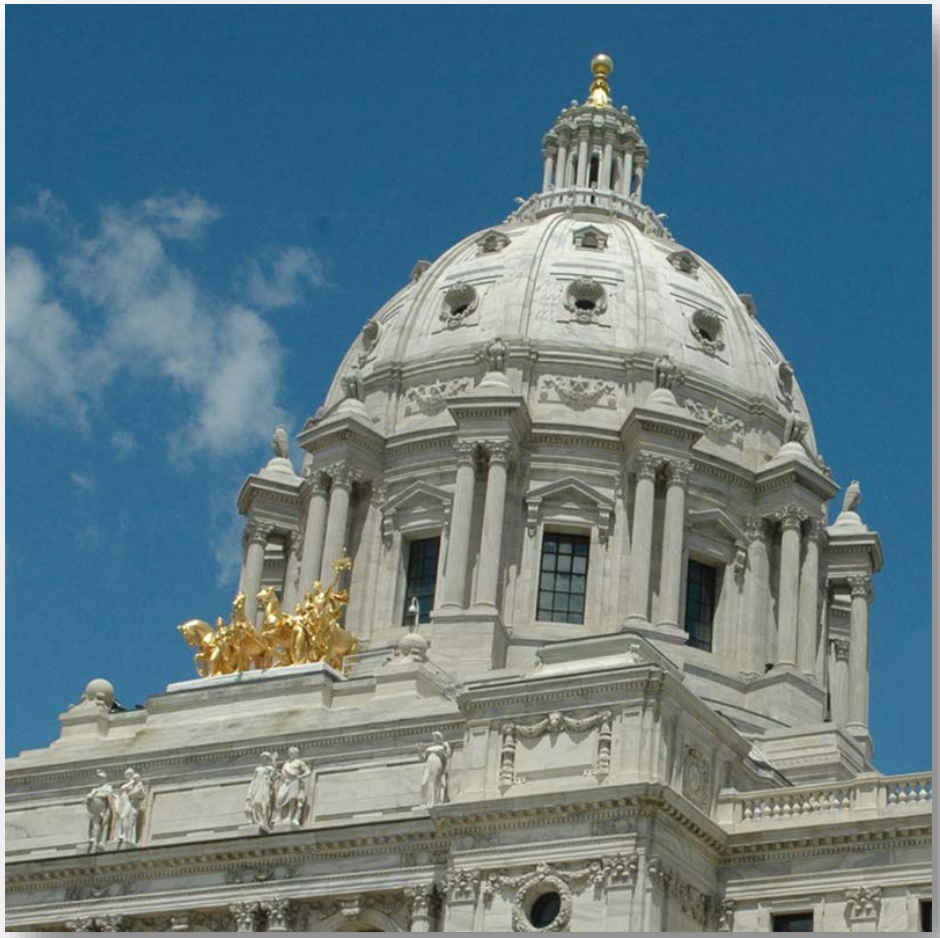

- MN Stat. Chapter 103B.201 (Metropolitan Surface Water Management)
- MN Rules Chapter 8410 (Metropolitan Local Water Management)

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Local Water Plans

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Minnehaha Creek Watershed District Comprehensive Water Resources Management Plan

2007-2017

Wenck File #0185-4315

Prepared for:

MINNEHAHA CREEK WATERSHED DISTRICT

MINNEHAHA CREEK WATERSHED DISTRICT
QUALITY OF WATER, QUALITY OF LIFE

FINAL April 2007

Last Amended
July 25, 2013

Prepared by:

WENCK ASSOCIATES, INC.
1800 Pioneer Creek Center
P.O. Box 249
Maple Plain, Minnesota 55359-0249
(763) 479-4200

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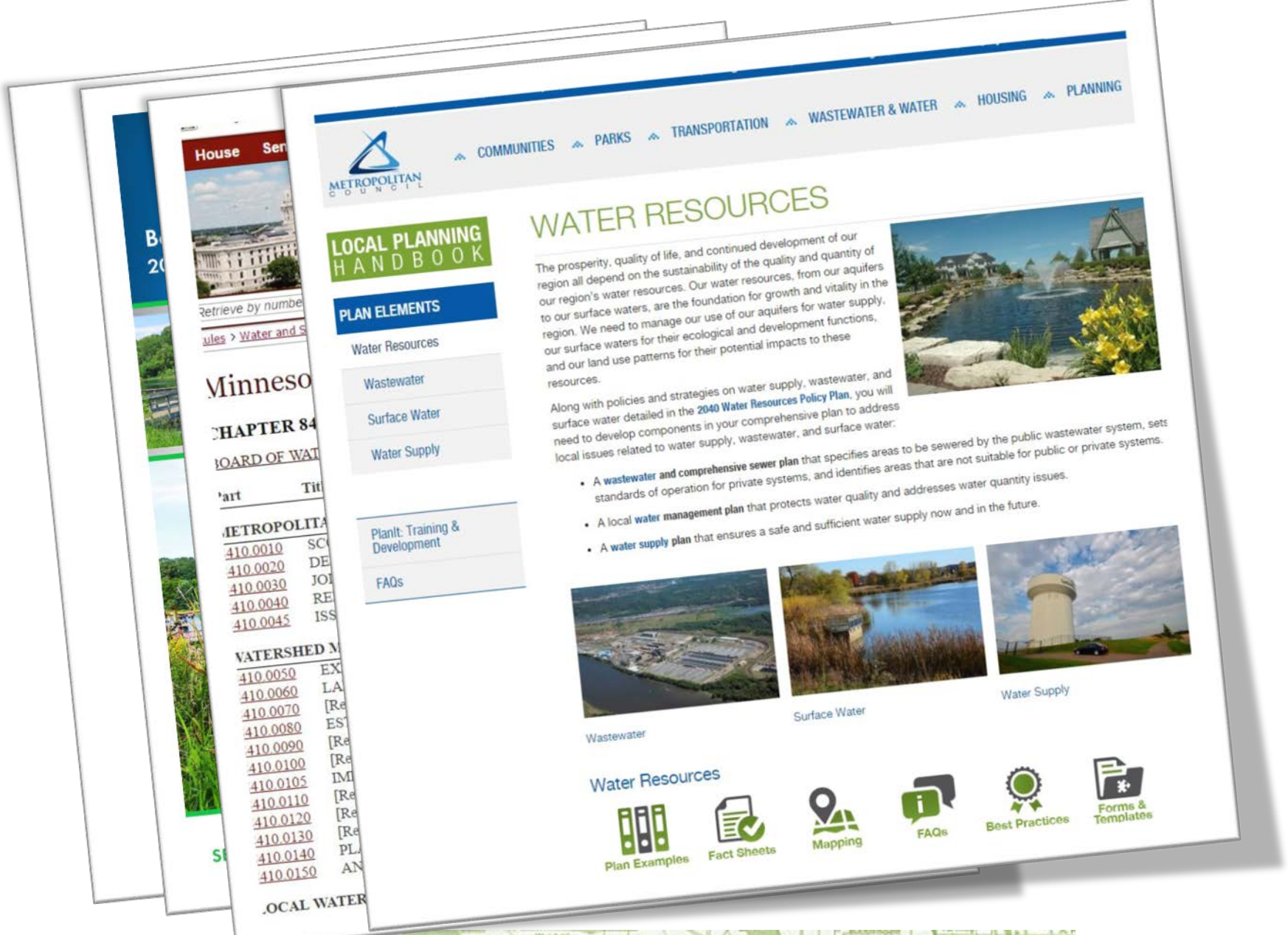

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What has changed since the last round of comprehensive planning?

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What has changed since the last round of comprehensive planning?

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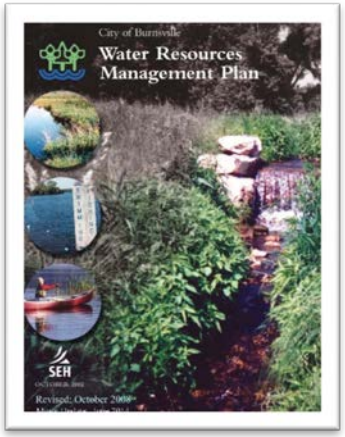
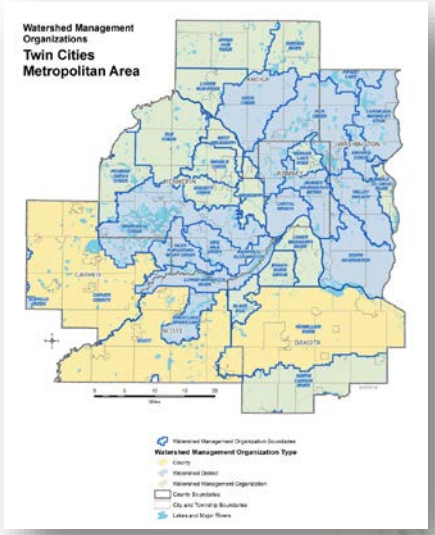
Submission, Review and Approval





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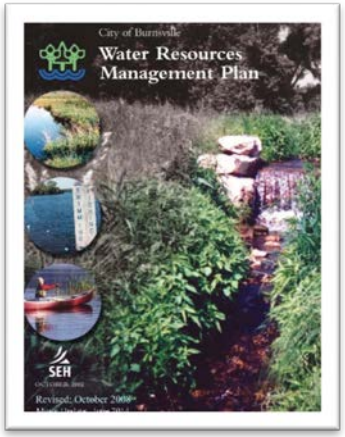
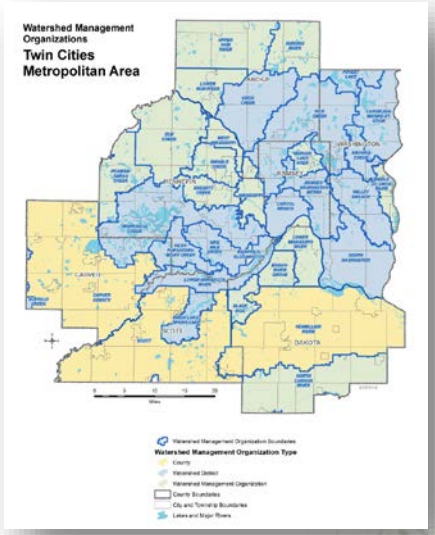
Submission, Review and Approval





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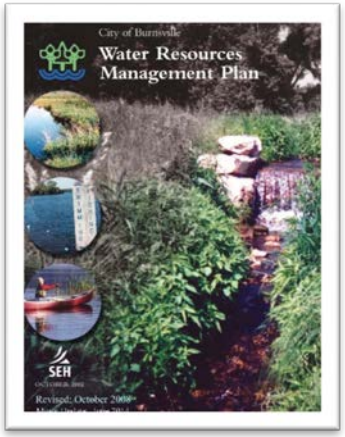
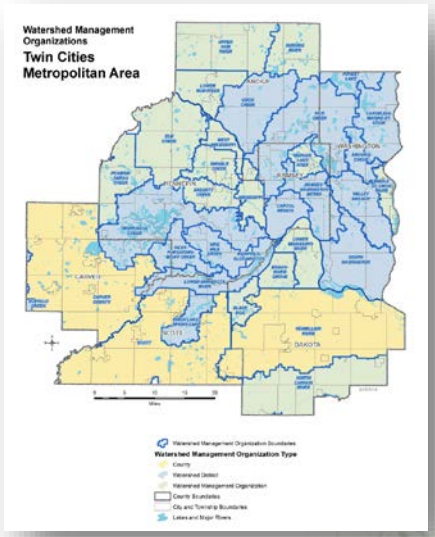
Submission, Review and Approval





45 Days

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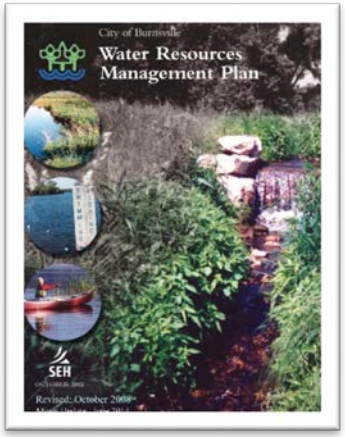
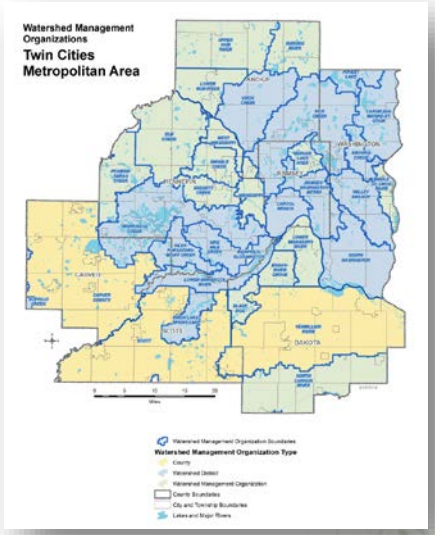
Submission, Review and Approval



60 Days



45 Days

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Submission, Review and Approval

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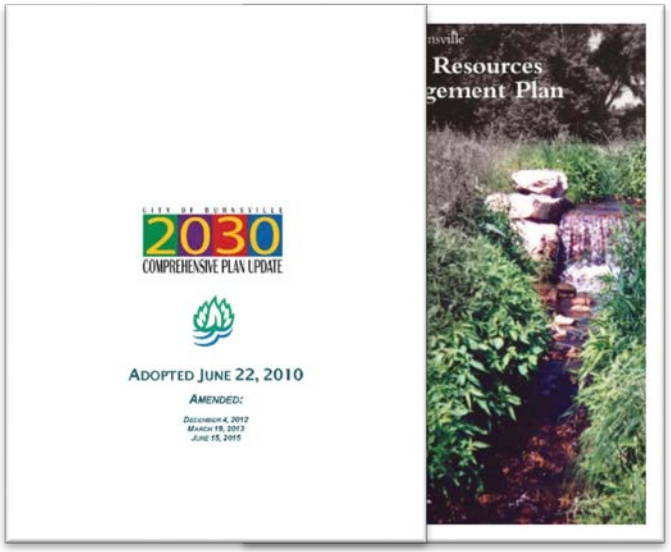
Submission, Review and Approval

Final Comp Plan must Include Entire Local Water Plan as a Chapter or Appendix



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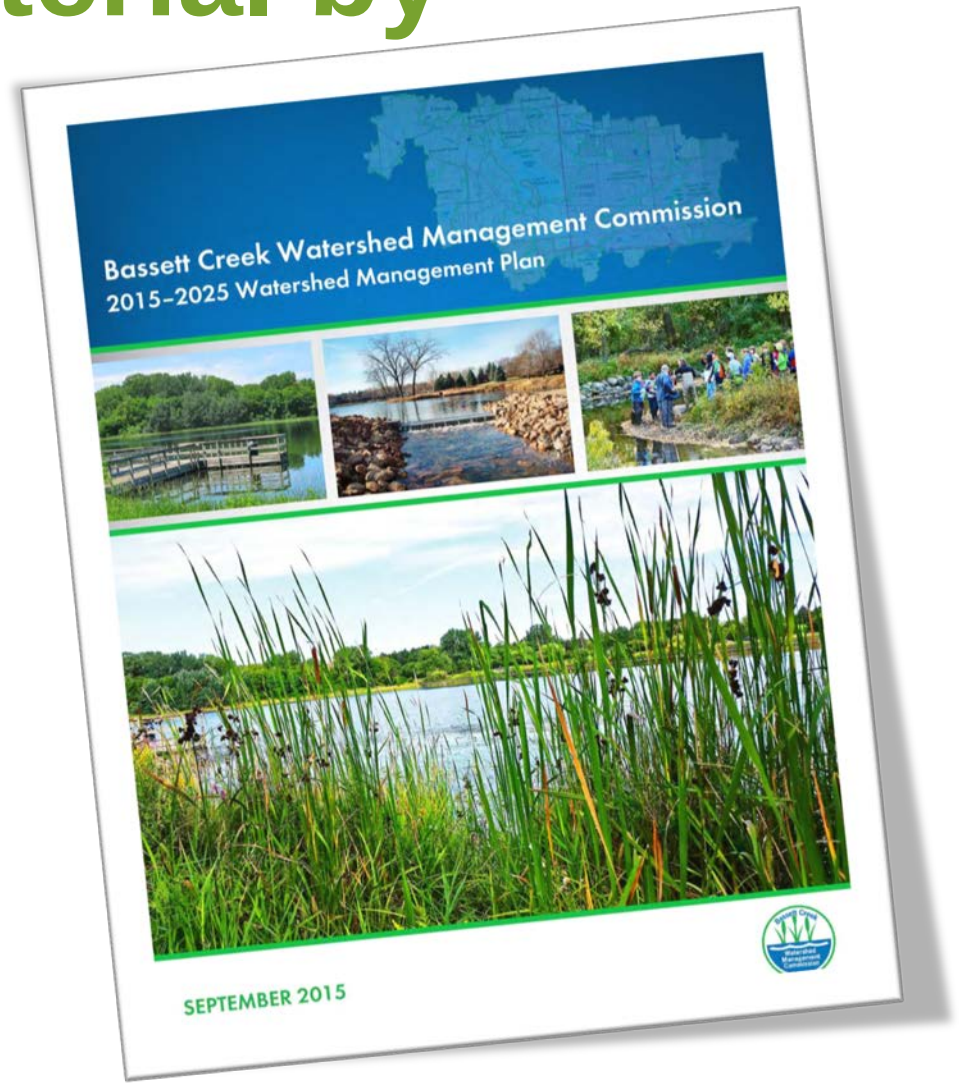
Adopting Material by Reference



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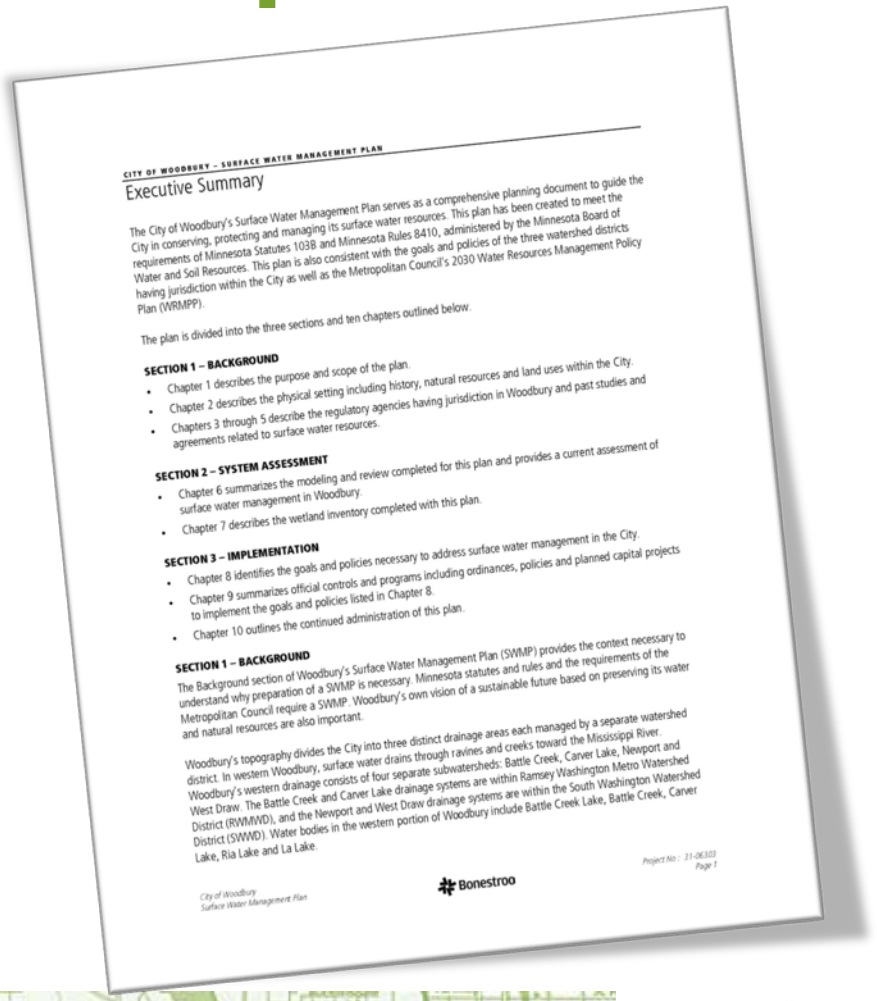
Minimum Plan Requirements

- ✓ Executive Summary



CITY OF WOODBURY – SURFACE WATER MANAGEMENT PLAN

Executive Summary

The City of Woodbury's Surface Water Management Plan serves as a comprehensive planning document to guide the City in conserving, protecting and managing its surface water resources. This plan has been created to meet the requirements of Minnesota Statutes 103B and Minnesota Rules 8410, administered by the Minnesota Board of Water and Soil Resources. This plan is also consistent with the goals and policies of the three watershed districts having jurisdiction within the City as well as the Metropolitan Council's 2030 Water Resources Management Policy Plan (WRMPP).

The plan is divided into the three sections and ten chapters outlined below.

SECTION 1 – BACKGROUND

- Chapter 1 describes the purpose and scope of the plan.
- Chapter 2 describes the physical setting including history, natural resources and land uses within the City.
- Chapters 3 through 5 describe the regulatory agencies having jurisdiction in Woodbury and past studies and agreements related to surface water resources.

SECTION 2 – SYSTEM ASSESSMENT

- Chapter 6 summarizes the modeling and review completed for this plan and provides a current assessment of surface water management in Woodbury.
- Chapter 7 describes the wetland inventory completed with this plan.

SECTION 3 – IMPLEMENTATION

- Chapter 8 identifies the goals and policies necessary to address surface water management in the City.
- Chapter 9 summarizes official controls and programs including ordinances, policies and planned capital projects to implement the goals and policies listed in Chapter 8.
- Chapter 10 outlines the continued administration of this plan.

SECTION 1 – BACKGROUND

The Background section of Woodbury's Surface Water Management Plan (SWMP) provides the context necessary to understand why preparation of a SWMP is necessary. Minnesota statutes and rules and the requirements of the Metropolitan Council require a SWMP. Woodbury's own vision of a sustainable future based on preserving its water and natural resources are also important.

Woodbury's topography divides the City into three distinct drainage areas each managed by a separate watershed district. In western Woodbury, surface water drains through ravines and creeks toward the Mississippi River. Woodbury's western drainage consists of four separate subwatersheds: Battle Creek, Carver Lake, Newport and West Draw. The Battle Creek and Carver Lake drainage systems are within Ramsey Washington Metro Watershed District (RWMWD), and the Newport and West Draw drainage systems are within the South Washington Watershed District (SWWD). Water bodies in the western portion of Woodbury include Battle Creek Lake, Battle Creek, Carver Lake, Ria Lake and La Lake.

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Minimum Plan Requirements

- ✓ Water resources-related agreements

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Minimum Plan Requirements

- ✓ Description of existing and proposed physical environment and land use

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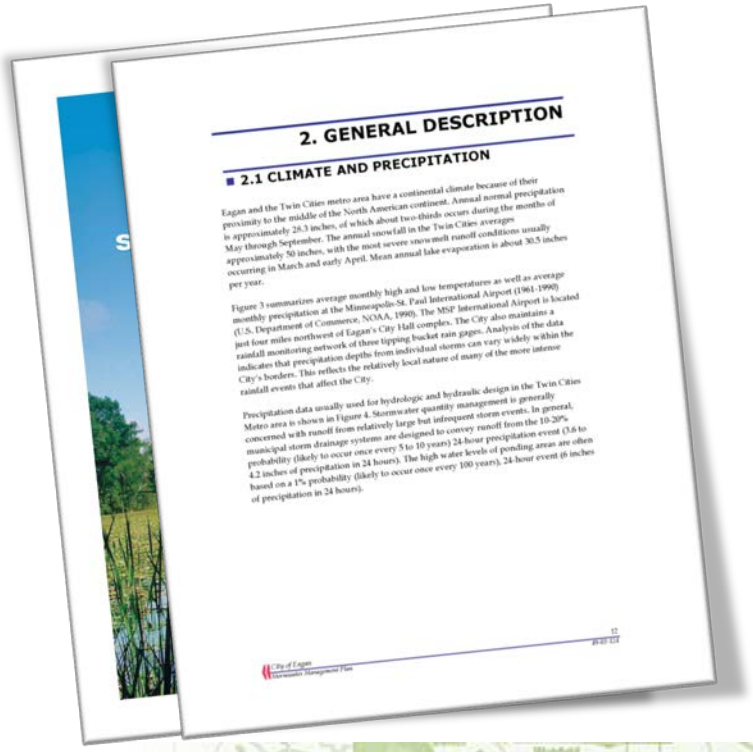
Minimum Plan Requirements

- ✓ Description of existing and proposed physical environment and land use



2. GENERAL DESCRIPTION

2.1 CLIMATE AND PRECIPITATION

Eagan and the Twin Cities metro area have a continental climate because of their proximity to the middle of the North American continent. Annual normal precipitation is approximately 28.3 inches, of which about two-thirds occurs during the months of May through September. The annual snowfall in the Twin Cities averages approximately 50 inches, with the most severe snowmelt runoff conditions usually occurring in March and early April. Mean annual lake evaporation is about 30.5 inches per year.

Figure 3 summarizes average monthly high and low temperatures as well as average monthly precipitation at the Minneapolis-St. Paul International Airport (1961-1990) (U.S. Department of Commerce, NOAA, 1990). The MSP International Airport is located just four miles northwest of Eagan's City Hall complex. The City also maintains a rainfall monitoring network of three tipping bucket rain gages. Analysis of the data indicates that precipitation depths from individual storms can vary widely within the City's borders. This reflects the relatively local nature of many of the more intense rainfall events that affect the City.

Precipitation data usually used for hydrologic and hydraulic design in the Twin Cities Metro area is shown in Figure 4. Stormwater quantity management is generally concerned with runoff from relatively large but infrequent storm events. In general, municipal storm drainage systems are designed to convey runoff from the 10-20% probability (likely to occur once every 5 to 10 years) 24-hour precipitation event (3.6 to 4.2 inches of precipitation in 24 hours). The high water levels of ponding areas are often based on a 1% probability (likely to occur once every 100 years), 24-hour event (6 inches of precipitation in 24 hours).

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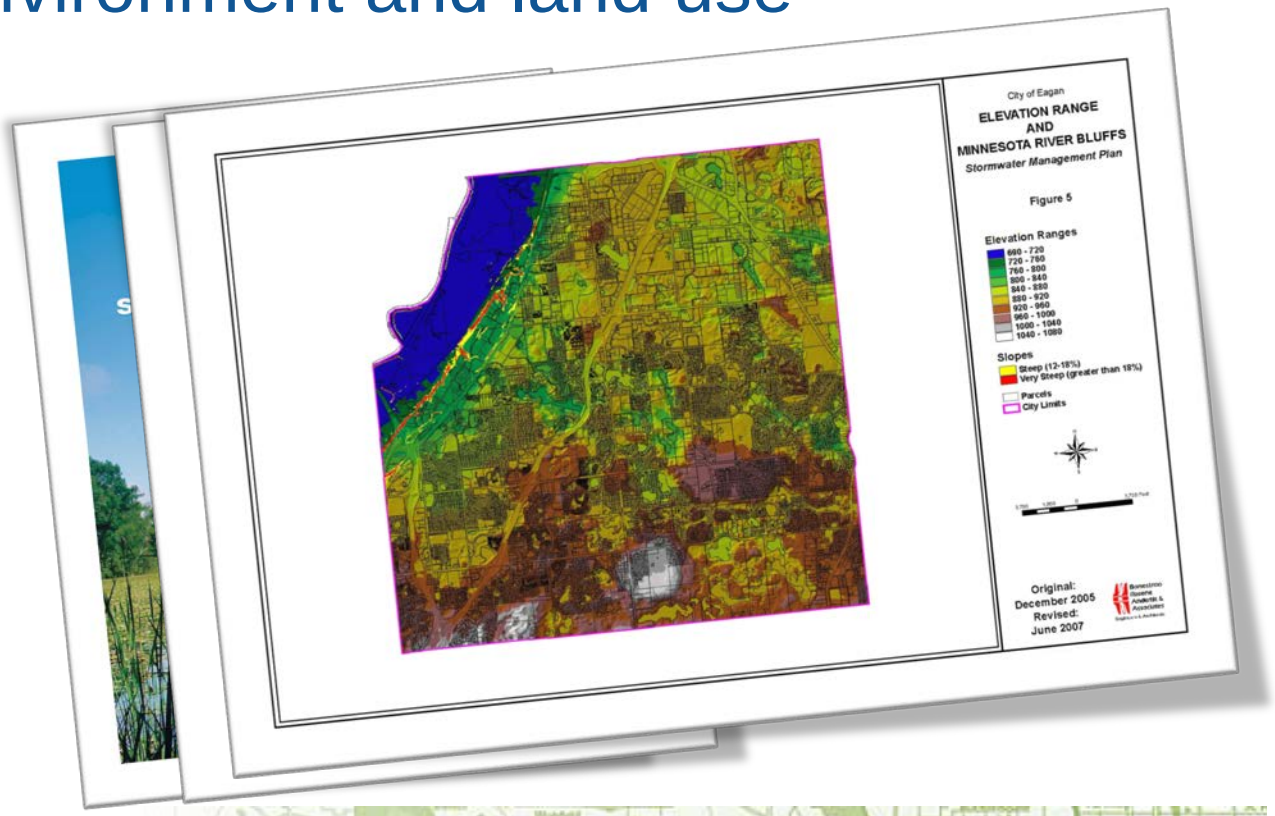
Minimum Plan Requirements

- ✓ Description of existing and proposed physical environment and land use



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Minimum Plan Requirements

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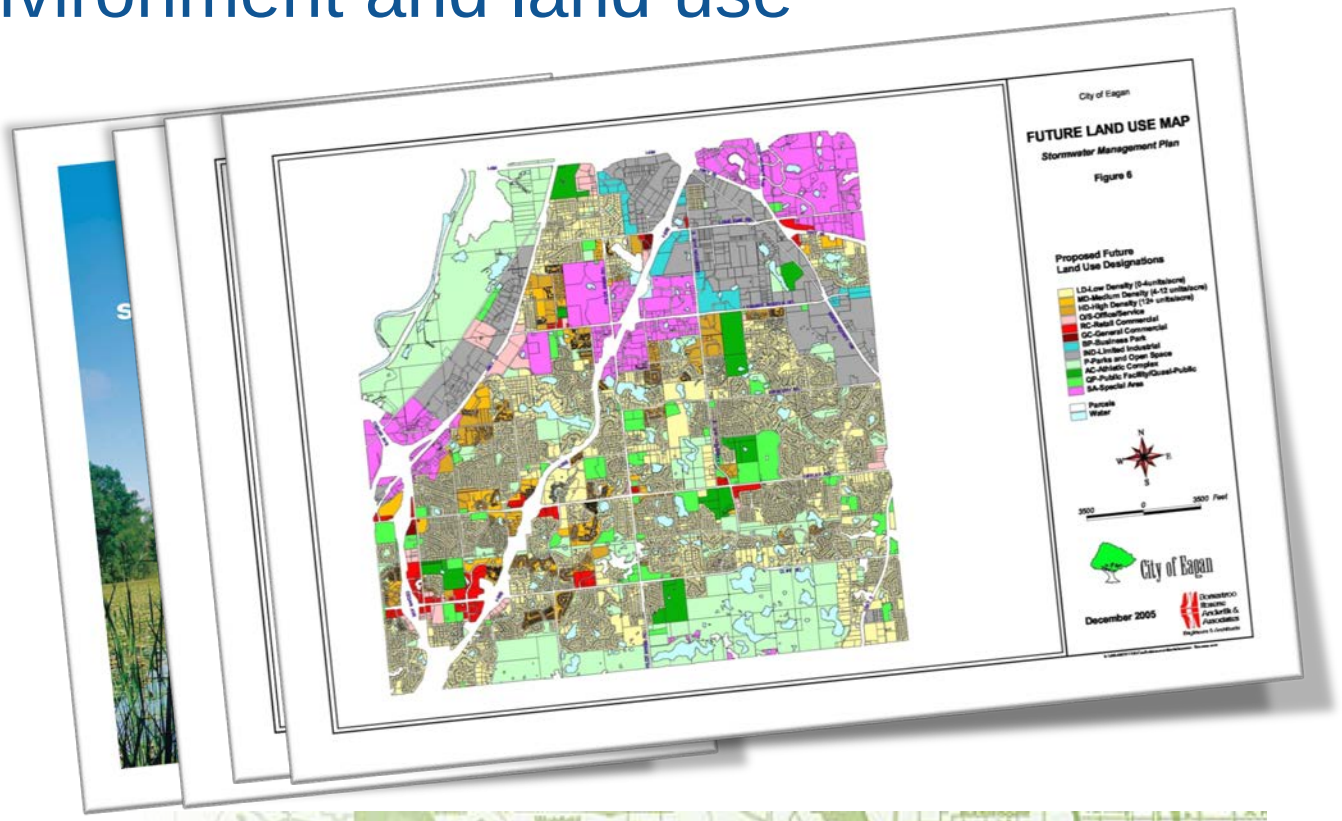

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Minimum Plan Requirements

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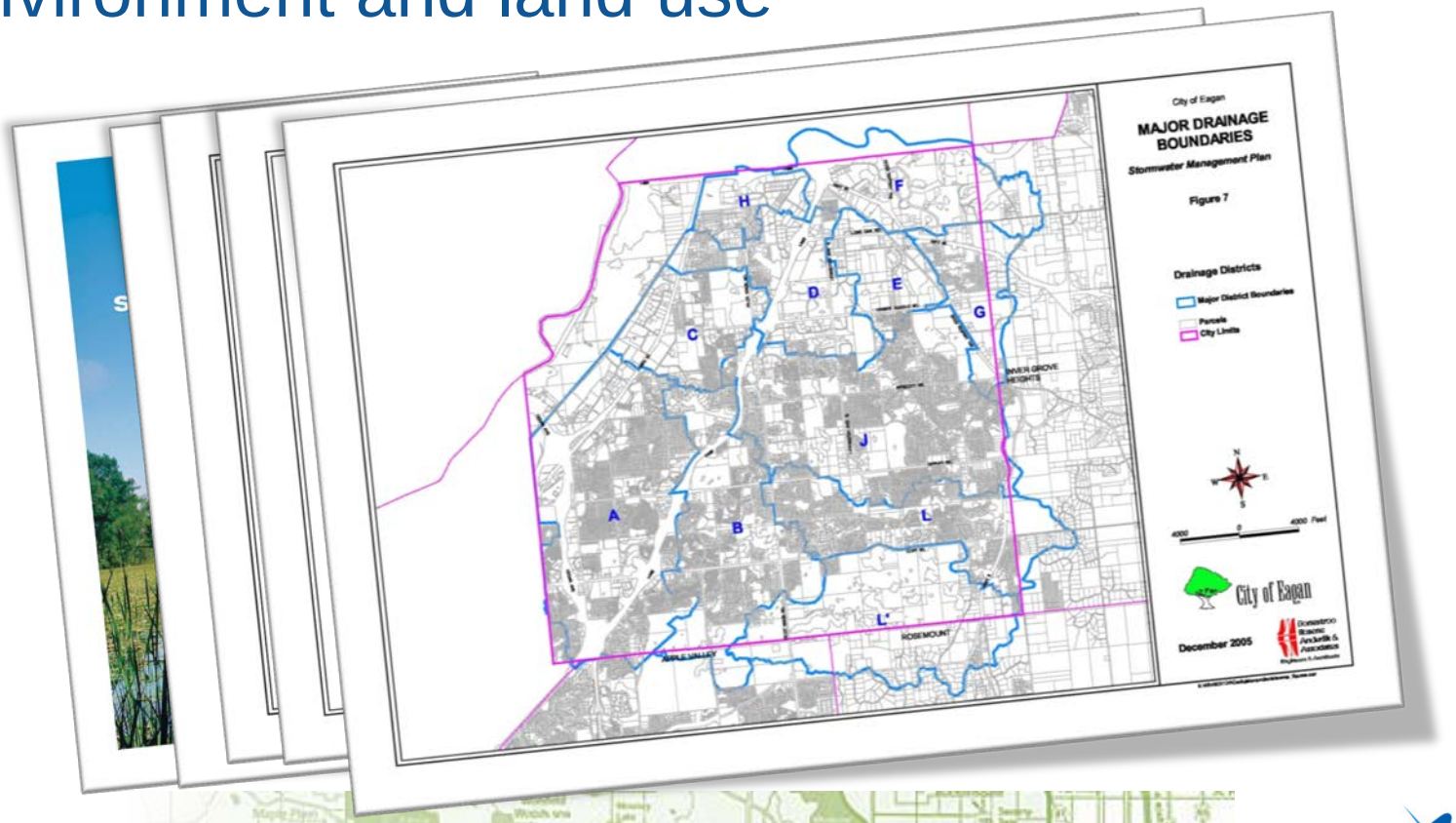

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Enhancing Your Plan

✓ Description of existing and proposed physical environment and land use

- Climate
- Precipitation
- Topography
- Soils
- Geology
- Water quality and quantity info
- Groundwater resources
- Stormwater systems
- Habitat
- Rare and endangered species
- Water-based recreation areas

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Minimum Plan Requirements

- ✓Assessment of existing or potential water resource-related problems

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METROPOLITAN COUNCIL

Minimum Plan Requirements

- ✓Assessment of existing or potential water resource-related problems

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METROPOLITAN COUNCIL

Minimum Plan Requirements

- ✓Assessment of existing or potential water resource-related problems

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METROPOLITAN COUNCIL

Minimum Plan Requirements

- ✓Assessment of existing or potential water resource-related problems

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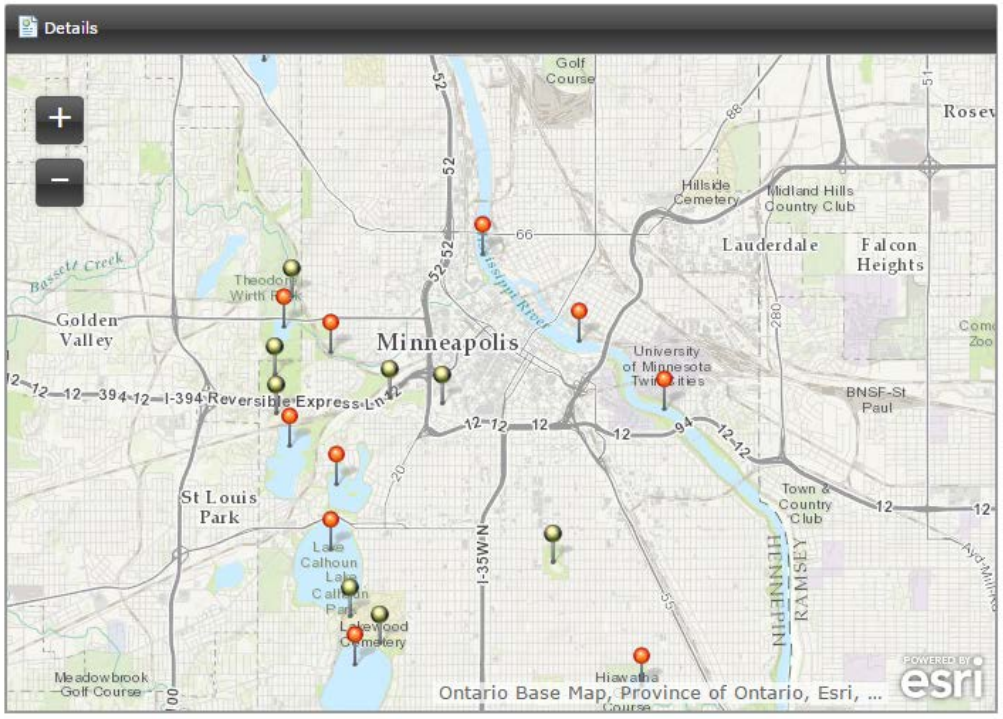
METROPOLITAN COUNCIL

Minimum Plan Requirements

- ✓Assessment of existing or potential water resource-related problems

Impaired Water Bodies

The map below shows Minneapolis water bodies. Red pins indicate an impairment and green pins indicate no impairment.



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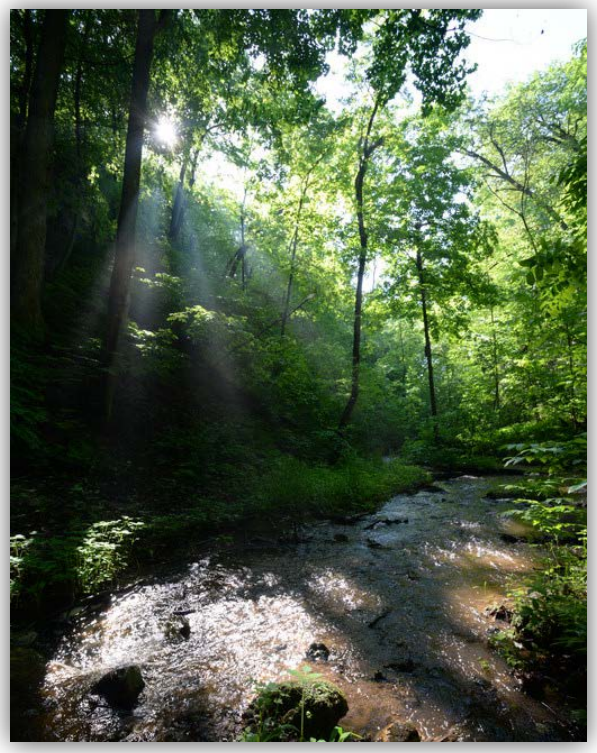
Enhancing Your Plan

✓Assessment of existing or potential water resource-related problems



- TMDLs and WRAPS
- Thermal pollution to designated trout streams
- Protection of special waters

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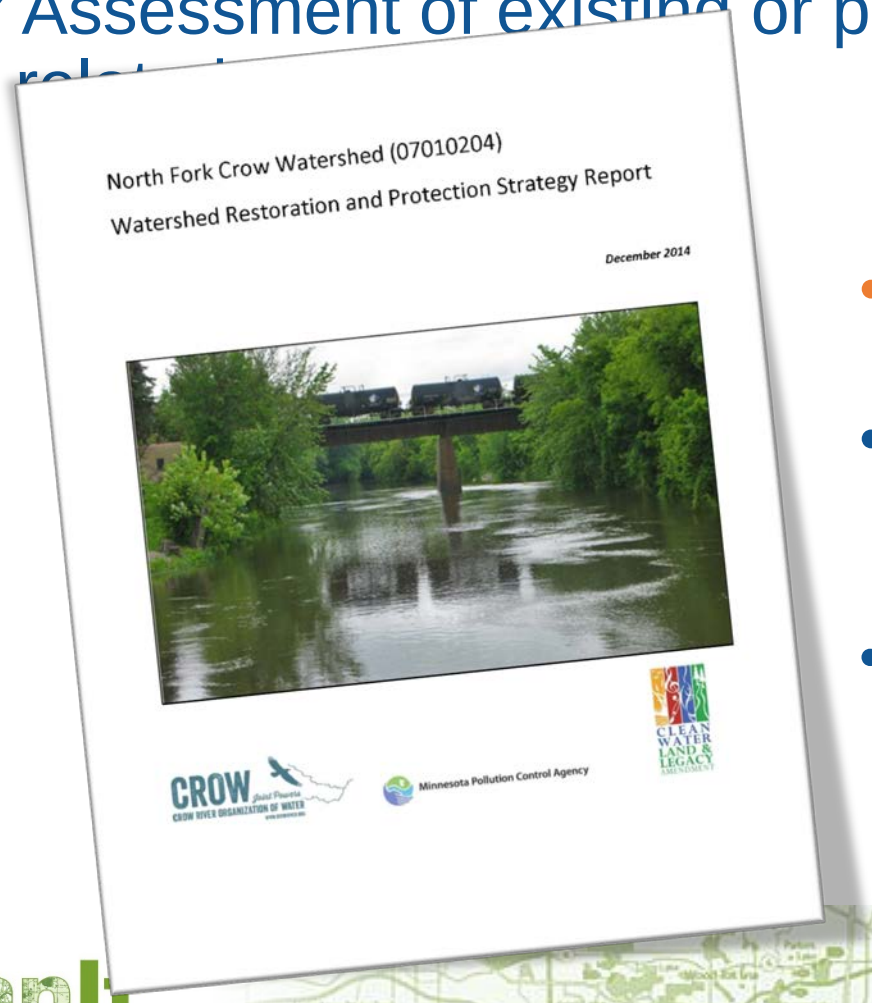
Enhancing Your Plan

✓Assessment of existing or potential water resource-



- TMDLs and WRAPS
- Thermal pollution to designated trout streams
- Protection of special waters

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Enhancing Your Plan

✓Assessment of existing or potential water resource-related problems

- TMDLs and WRAPS
- Thermal pollution to designated trout streams
- Protection of special waters

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Enhancing Your Plan

✓Assessment of existing or potential water resource-related problems

- TMDLs and WRAPS
- Thermal pollution to designated trout streams
- Protection of special waters

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Minimum Plan Requirements

✓ A local implementation program

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METROPOLITAN COUNCIL

Minimum Plan Requirements

- ✓ A local implementation program

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METROPOLITAN COUNCIL

Minimum Plan Requirements

- ✓ A local implementation program

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Minimum Plan Requirements

- ✓ A local implementation program

Minimum Plan Requirements

✓A local implementation program

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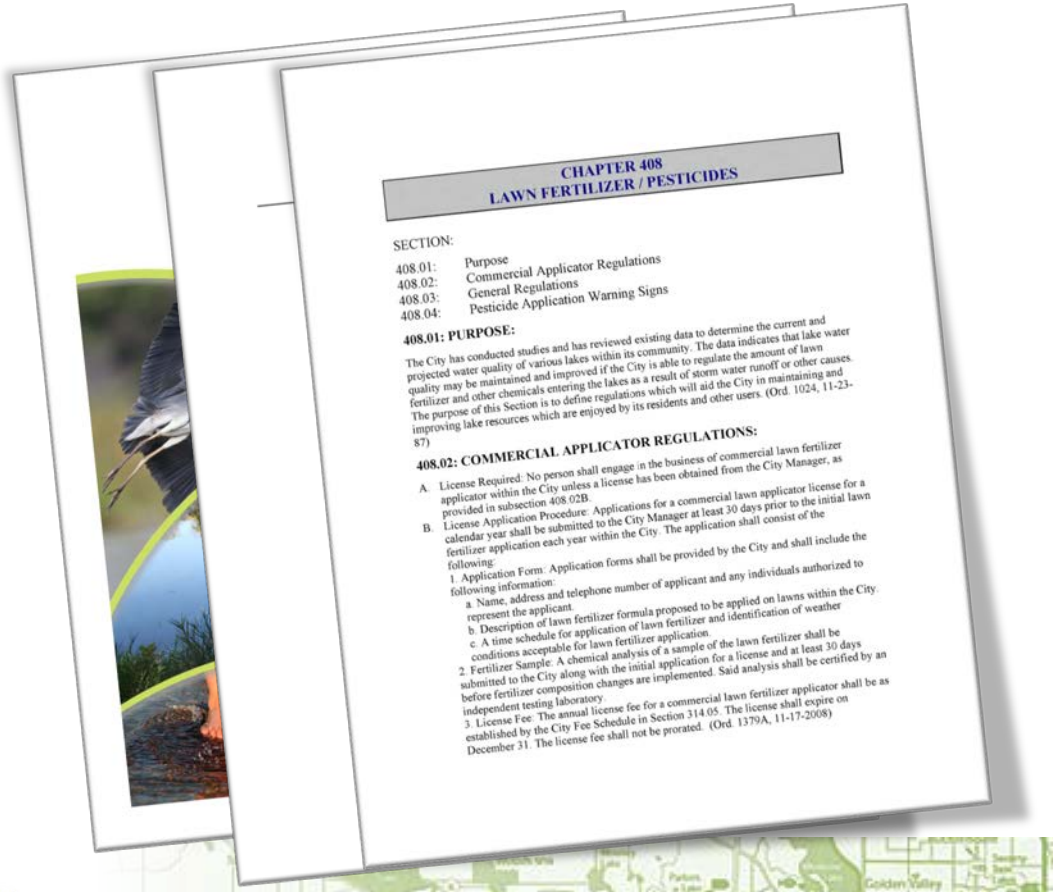
Minimum Plan Requirements

- ✓A local implementation program



CHAPTER 408
LAWN FERTILIZER / PESTICIDES

SECTION:

408.01: Purpose
408.02: Commercial Applicator Regulations
408.03: General Regulations
408.04: Pesticide Application Warning Signs

408.01: PURPOSE:

The City has conducted studies and has reviewed existing data to determine the current and projected water quality of various lakes within its community. The data indicates that lake water quality may be maintained and improved if the City is able to regulate the amount of lawn fertilizer and other chemicals entering the lakes as a result of storm water runoff or other causes. The purpose of this Section is to define regulations which will aid the City in maintaining and improving lake resources which are enjoyed by its residents and other users. (Ord. 1024, 11-23-87)

408.02: COMMERCIAL APPLICATOR REGULATIONS:

A. License Required: No person shall engage in the business of commercial lawn fertilizer applicator within the City unless a license has been obtained from the City Manager, as provided in subsection 408.02B.

B. License Application Procedure: Applications for a commercial lawn applicator license for a calendar year shall be submitted to the City Manager at least 30 days prior to the initial lawn fertilizer application each year within the City. The application shall consist of the following:

1. Application Form: Application forms shall be provided by the City and shall include the following information:
   a. Name, address and telephone number of applicant and any individuals authorized to represent the applicant.
   b. Description of lawn fertilizer formula proposed to be applied on lawns within the City.
   c. A time schedule for application of lawn fertilizer and identification of weather conditions acceptable for lawn fertilizer application.
2. Fertilizer Sample: A chemical analysis of a sample of the lawn fertilizer shall be submitted to the City along with the initial application for a license and at least 30 days before fertilizer composition changes are implemented. Said analysis shall be certified by an independent testing laboratory.
3. License Fee: The annual license fee for a commercial lawn fertilizer applicator shall be as established by the City Fee Schedule in Section 314.05. The license shall expire on December 31. The license fee shall not be prorated. (Ord. 1379A, 11-17-2008)

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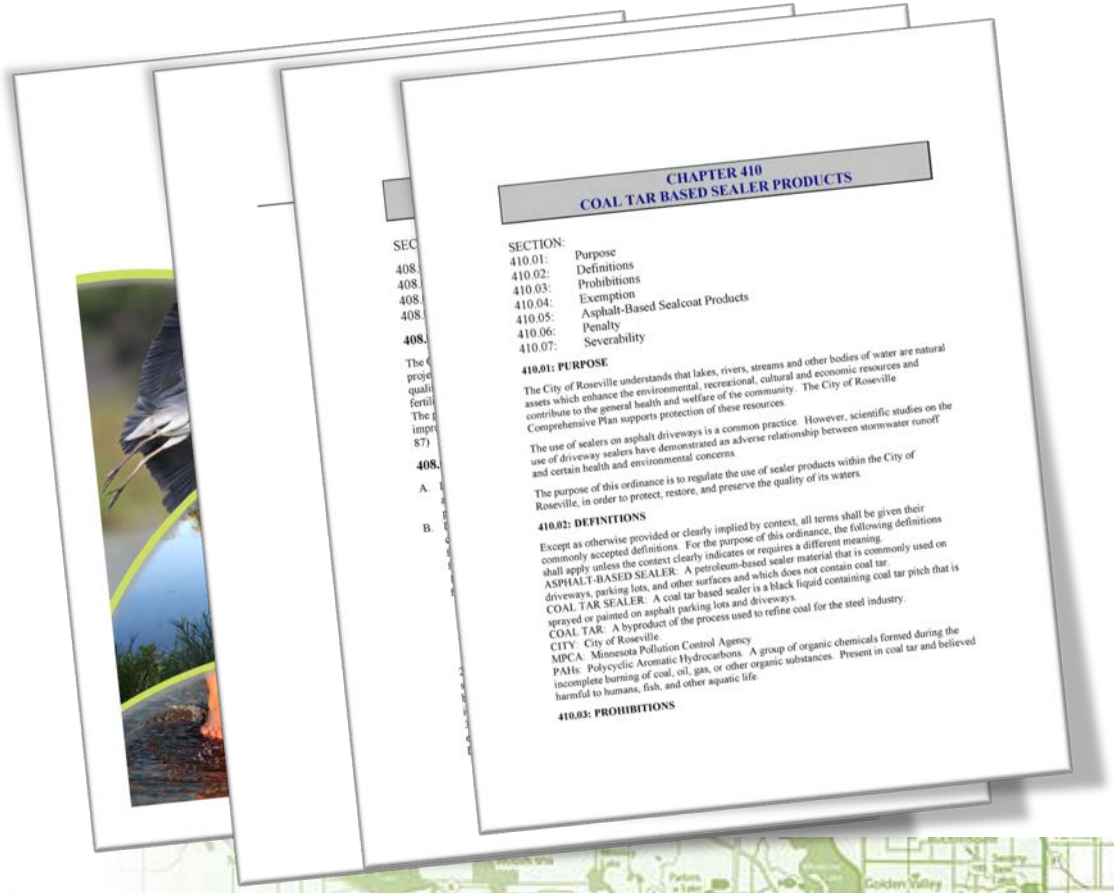
Minimum Plan Requirements

- ✓A local implementation program



CHAPTER 410
COAL TAR BASED SEALER PRODUCTS

SECTION:
410.01: Purpose
410.02: Definitions
410.03: Prohibitions
410.04: Exemption
410.05: Asphalt-Based Sealcoat Products
410.06: Penalty
410.07: Severability

410.01: PURPOSE

The City of Roseville understands that lakes, rivers, streams and other bodies of water are natural assets which enhance the environmental, recreational, cultural and economic resources and contribute to the general health and welfare of the community. The City of Roseville Comprehensive Plan supports protection of these resources.

The use of sealers on asphalt driveways is a common practice. However, scientific studies on the use of driveway sealers have demonstrated an adverse relationship between stormwater runoff and certain health and environmental concerns.

The purpose of this ordinance is to regulate the use of sealer products within the City of Roseville, in order to protect, restore, and preserve the quality of its waters.

410.02: DEFINITIONS

Except as otherwise provided or clearly implied by context, all terms shall be given their commonly accepted definitions. For the purpose of this ordinance, the following definitions shall apply unless the context clearly indicates or requires a different meaning.
ASPHALT-BASED SEALER: A petroleum-based sealer material that is commonly used on driveways, parking lots, and other surfaces and which does not contain coal tar.
COAL TAR SEALER: A coal tar based sealer is a black liquid containing coal tar pitch that is sprayed or painted on asphalt parking lots and driveways.
COAL TAR: A byproduct of the process used to refine coal for the steel industry.
CITY: City of Roseville.
MPCA: Minnesota Pollution Control Agency.
PAHs: Polycyclic Aromatic Hydrocarbons. A group of organic chemicals formed during the incomplete burning of coal, oil, gas, or other organic substances. Present in coal tar and believed harmful to humans, fish, and other aquatic life.

410.03: PROHIBITIONS

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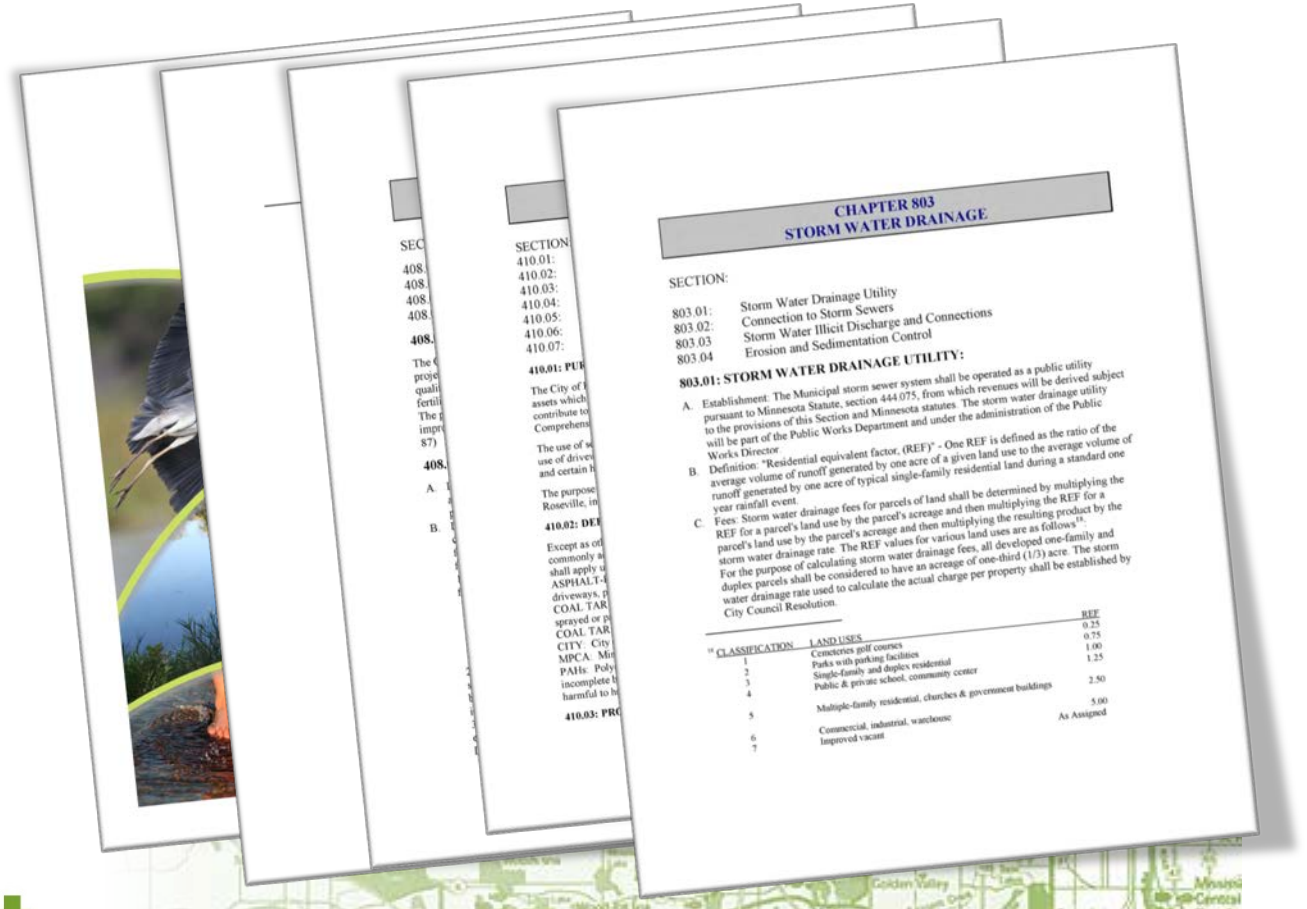
Minimum Plan Requirements

- ✓A local implementation program



CHAPTER 803
STORM WATER DRAINAGE

SECTION:

803.01: Storm Water Drainage Utility
803.02: Connection to Storm Sewers
803.03 Storm Water Illicit Discharge and Connections
803.04 Erosion and Sedimentation Control

803.01: STORM WATER DRAINAGE UTILITY:

A. Establishment: The Municipal storm sewer system shall be operated as a public utility pursuant to Minnesota Statute, section 444.075, from which revenues will be derived subject to the provisions of this Section and Minnesota statutes. The storm water drainage utility will be part of the Public Works Department and under the administration of the Public Works Director.

B. Definition: "Residential equivalent factor, (REF)" - One REF is defined as the ratio of the average volume of runoff generated by one acre of a given land use to the average volume of runoff generated by one acre of typical single-family residential land during a standard one year rainfall event.

C. Fees: Storm water drainage fees for parcels of land shall be determined by multiplying the REF for a parcel's land use by the parcel's acreage and then multiplying the resulting product by the storm water drainage rate. The REF values for various land uses are as follows[18]. For the purpose of calculating storm water drainage fees, all developed one-family and duplex parcels shall be considered to have an acreage of one-third (1/3) acre. The storm water drainage rate used to calculate the actual charge per property shall be established by City Council Resolution.

[18] CLASSIFICATION	LAND USES	REF
1	Cemeteries golf courses	0.25
2	Parks with parking facilities	0.75
3	Single-family and duplex residential	1.00
4	Public & private school, community center	1.25
5	Multiple-family residential, churches & government buildings	2.50
6	Commercial, industrial, warehouse	5.00
7	Improved vacant	As Assigned

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Minimum Plan Requirements

✓A local implementation program

- Table describing implementation program with:
  - ❑ schedule
  - ❑ estimated costs
  - ❑ funding sources
  - ❑ annual budget totals

Minimum Plan Requirements

✓A local implementation program

- Capital Improvement Table:
  - ❑ schedule
  - ❑ estimated costs
  - ❑ funding sources

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Minimum Plan Requirements

- ✓Amendment procedures for the plan

Additional Potential Enhancements

Additional Potential Enhancements

- Locations and maintenance schedule for all BMPs
- Methods to control runoff
- Use of NOAA Atlas 14
- Wetland Conservation Act
- Minimal Impact Design Standards (MIDS)
- Minnesota Stormwater Manual
- Stormwater Pollution Prevention Plan (SWPP)

Wastewater

Surface Water

Water Supply

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Water Supply

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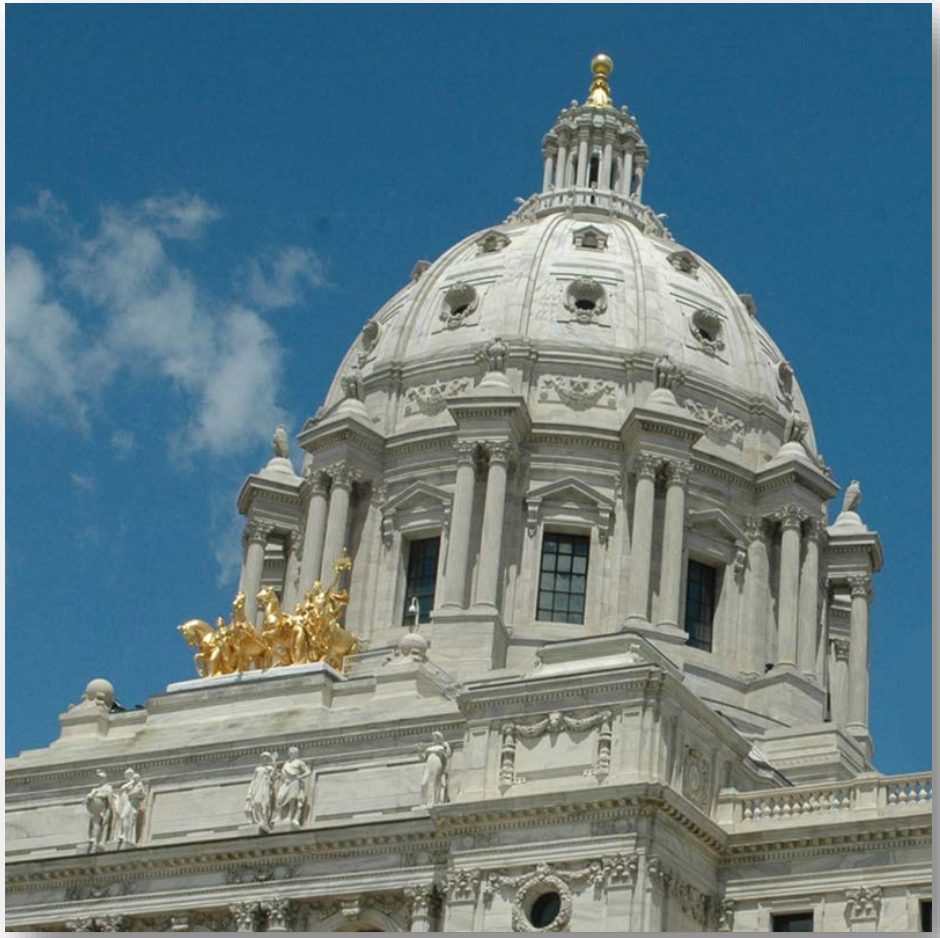

- MN Stat. 473.859
  - Comprehensive Plan Content
- MN Stat. 103G.291
  - Public Water Supply Plans; Appropriation During Deficiency
- Minn. Rules 4720.5280
  - Alternate Water Supply; Contingency Strategy

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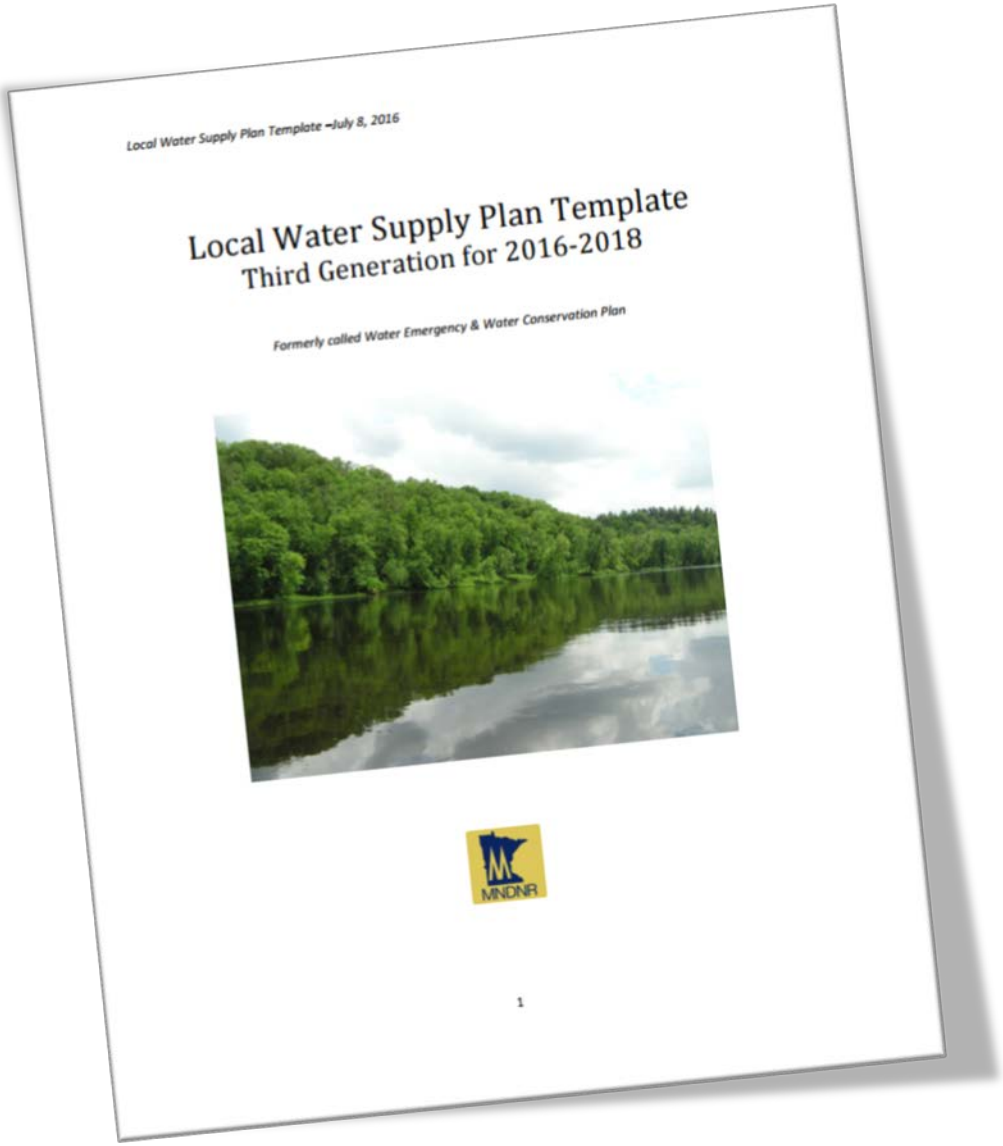
Local Water Supply Plan Template



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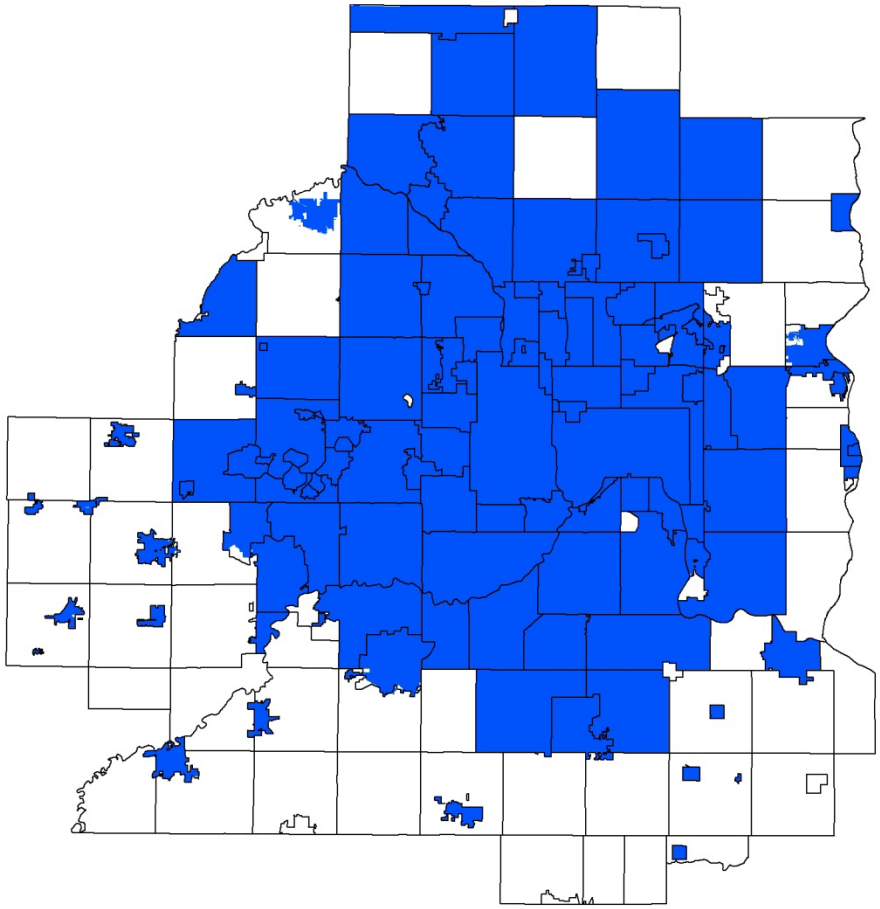
What has changed since the last round of comprehensive planning?

- ✓Updated template and streamlined review process by the Council and MN DNR
- ✓Local water supply plan schedule is now aligned with comprehensive plan
- ✓Master Water Supply Plan provides guidance

Minimum Plan Requirements



Communities served by municipal public water supplies

Communities served by private water supplies

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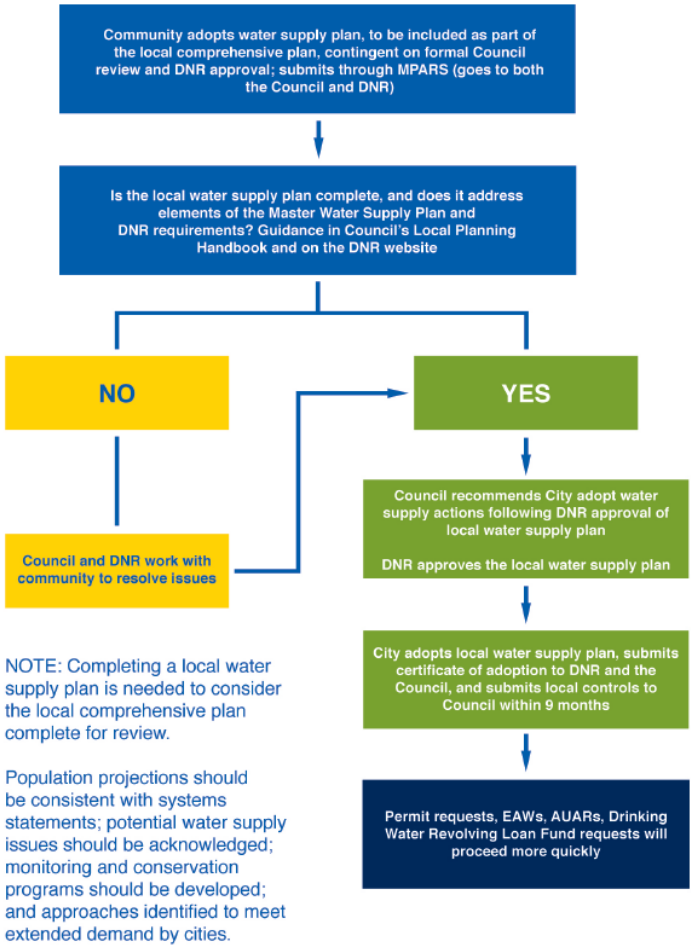
Review and Approval Process

- Plan submitted to both Metropolitan Council and MN DNR
- Reviewed and commented on by the Metropolitan Council.
- Approved by the MN DNR



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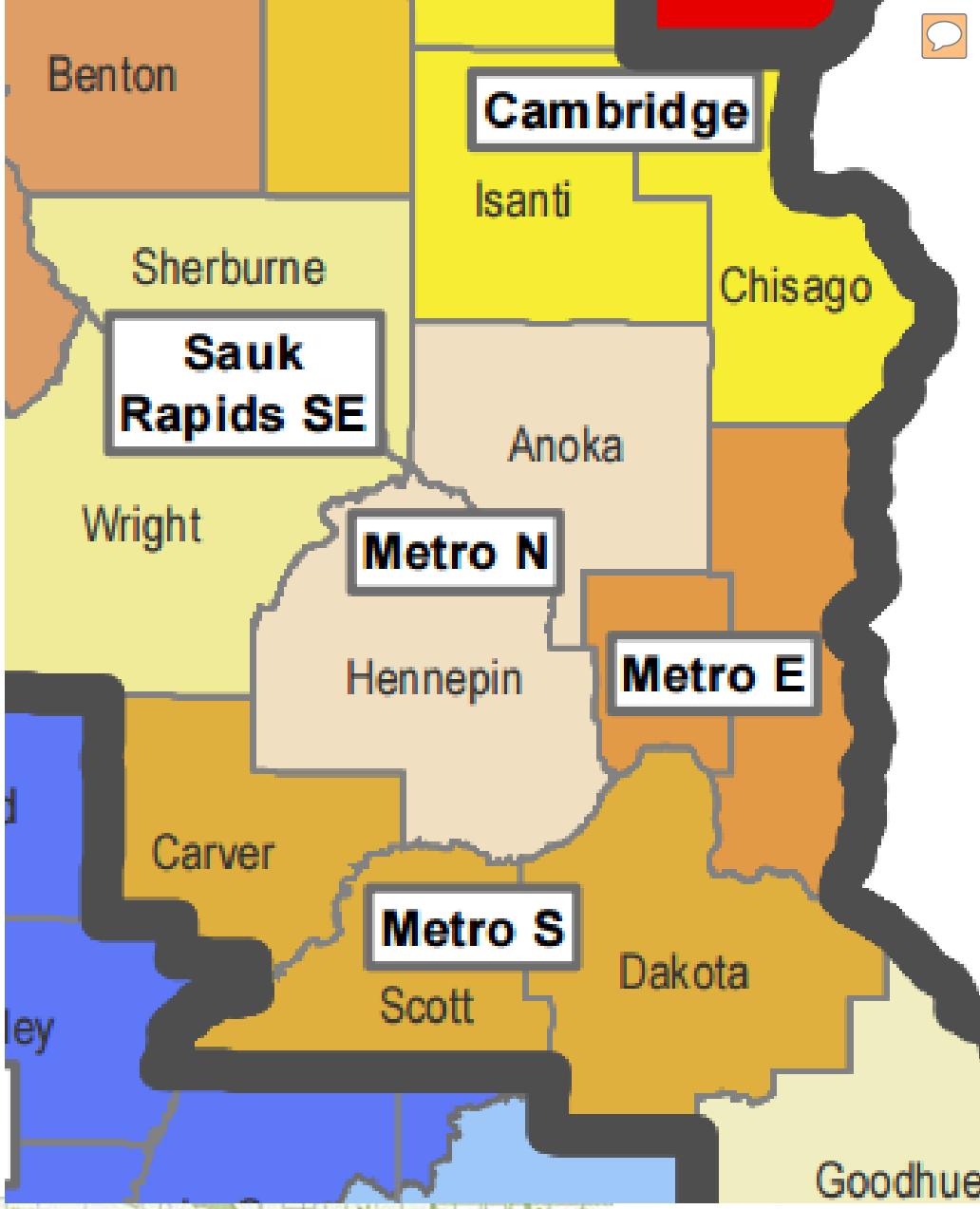
DNR Hydro

Metro East
Jenifer Sorensen 651-259-5754

Metro North
Kate Drewry, 651-259-5753

Metro South
Jennie Skancke, 651-259-5790



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Plans Due Oct. 31, 2016

Andover
Anoka
Arden Hills
Bayport
Blaine
Brooklyn Park
Carver
Centerville
Chanhassen
Chaska
Circle Pines
Columbia Heights
Columbus
Coon Rapids
Cottage Grove
East Bethel
Forest Lake
Fridley
Hastings
Hugo
Jordan
Lake Elmo
Lakeland
Lakeville
Lexington
Lino Lakes
Little Canada
Mahtomedi
Marine On St Croix
Mayer
Minneapolis
Mounds View
New Brighton
Newport
North St Paul
Norwood Young America
Oak Grove
Oak Park Heights
Oakdale
Ramsey
Rosemount
Roseville
Savage
Shoreview
Spring Lake Park
St Francis
St Paul Park
St Paul
Stillwater
Vadnais Heights
White Bear Lake
White Bear Township
Woodbury

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Plans Due Dec. 31, 2017

Bloomington	Joint Water Commission - Crystal, Golden Valley, New Hope
Brooklyn Center	Loretto
Burnsville	Minnetonka Beach
Champlin	Minnetrista
Dayton	Mound
Eagan	New Trier
Eden Prairie	Prior Lake
Elko New Market	Robbinsdale
Excelsior	Shakopee
Farmington	Victoria
Greenfield	Waconia
Inver Grove Heights	

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Plans Due Dec. 31, 2018

Apple Valley	Orono
Belle Plaine	Plymouth
Cologne	Randolph
Edina	Richfield
Empire Township	Rogers
Hamburg	Shorewood
Hampton	South St Paul
Hopkins	Spring Park
Long Lake	St Bonifacius
Maple Grove	St Louis Park
Maple Plain	Tonka Bay
Medina	Vermillion
Minnetonka	Watertown
New Germany	Wayzata

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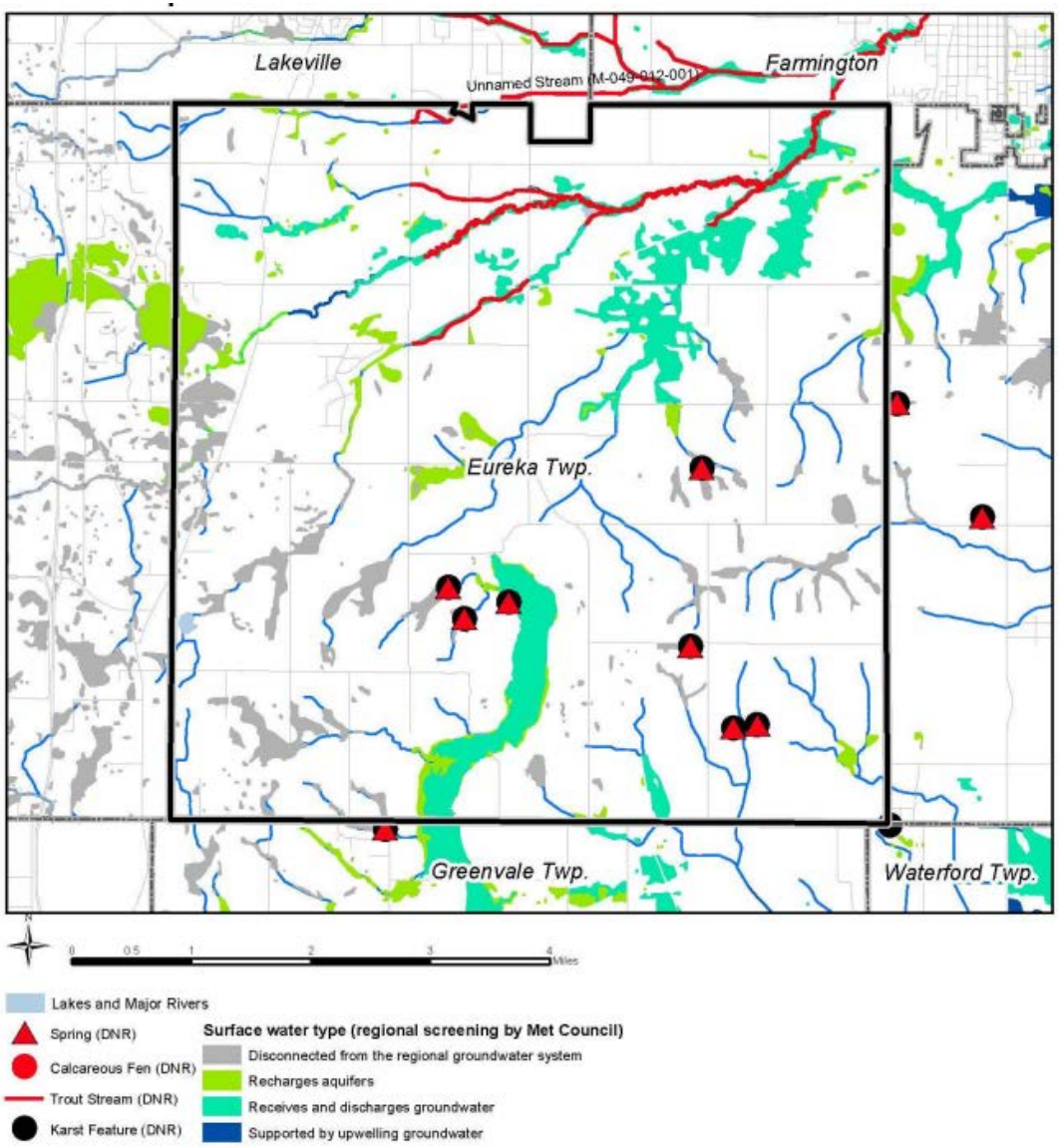
Minimum Requirements for Communities with Public Water Supplies

- The complete local water supply plan template
- Extended water demand projections
- Information about water supply sources

Minimum Requirements for Communities without Public Water Supplies

- Information about water supply sources by incorporating water supply maps from your system statement

Surface water features and their interaction with the regional groundwater system



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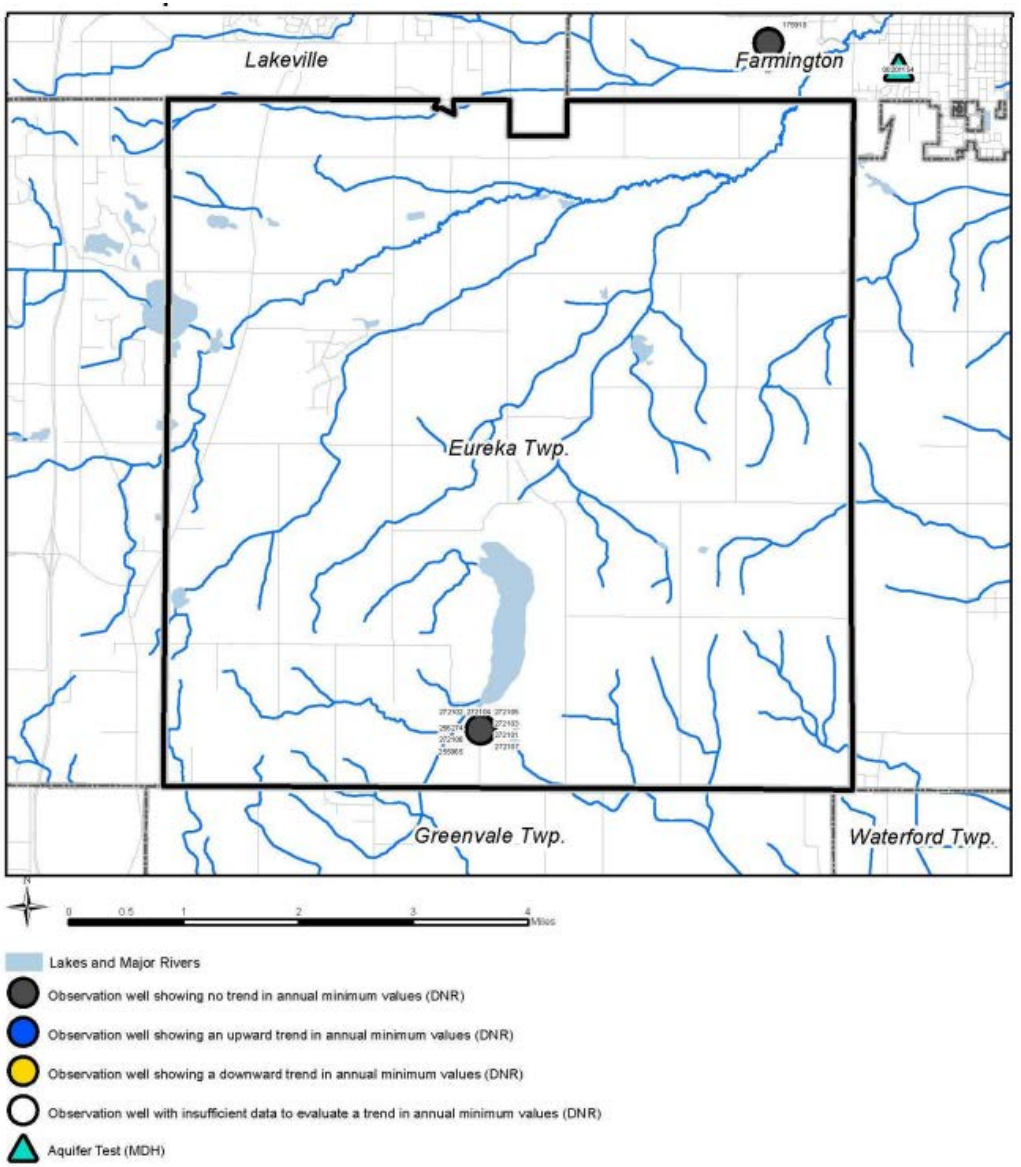
Groundwater level monitoring and aquifer testing



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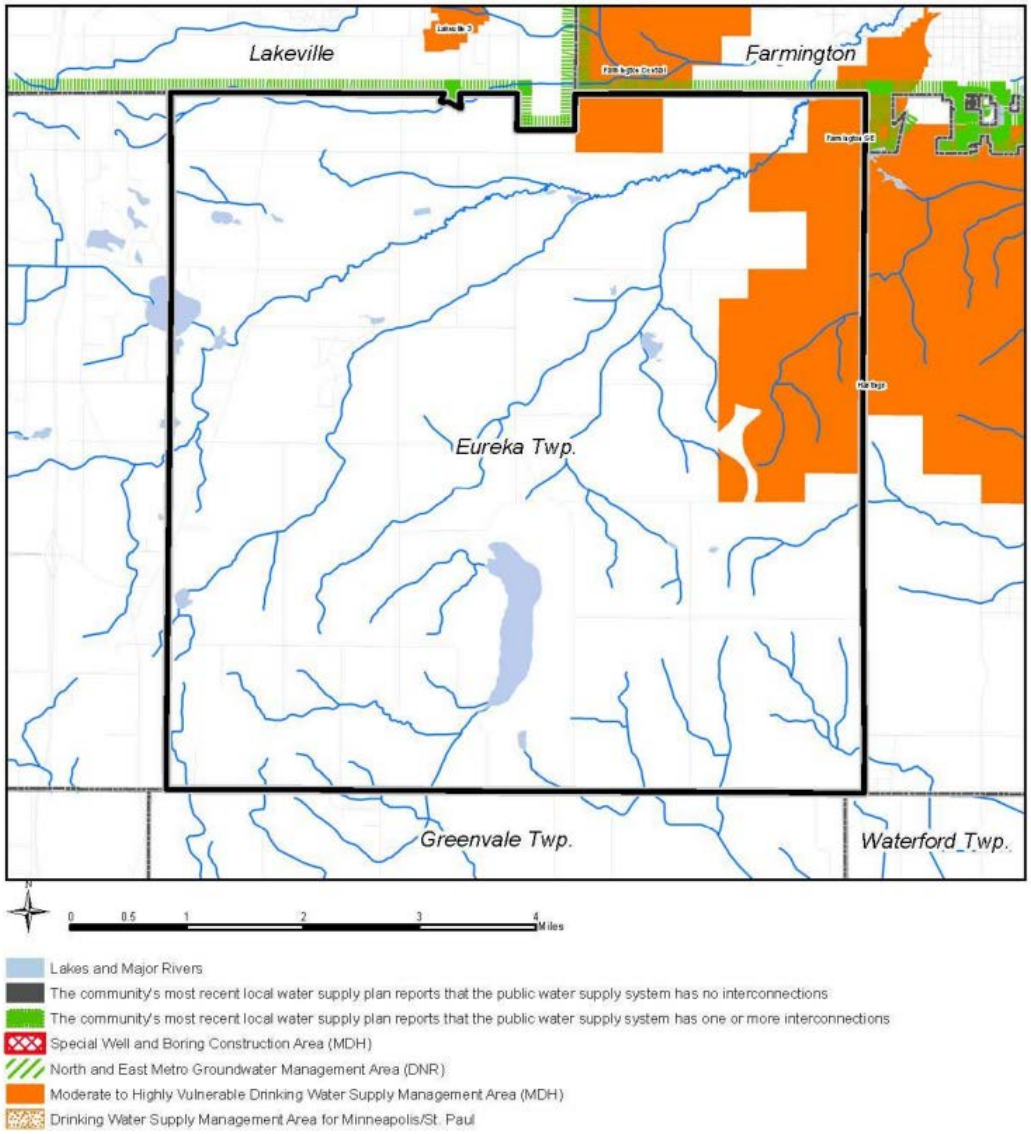
Regulatory and management areas



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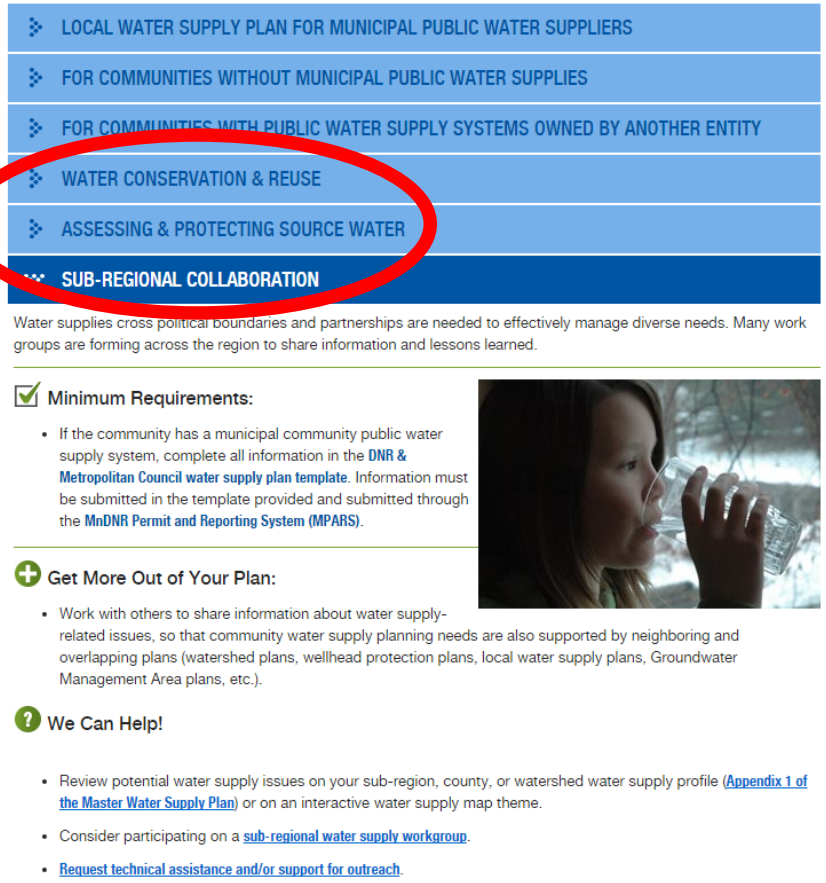
All Communities – Get More Out of Your Plan

- Water Conservation & Reuse
- Assessing & Protecting Source Water
- Sub-regional Collaboration



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Enhancing Water Conservation & Reuse

- Identify opportunities for reducing water use
- Set achievable goals
- Explore and support water conservation and efficiency programs

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Eden Prairie Example

www.edenprairie.org/ community/ living-green/ water-conservation-rebate-programs

EDEN PRAIRIE
LIVE • WORK • DREAM

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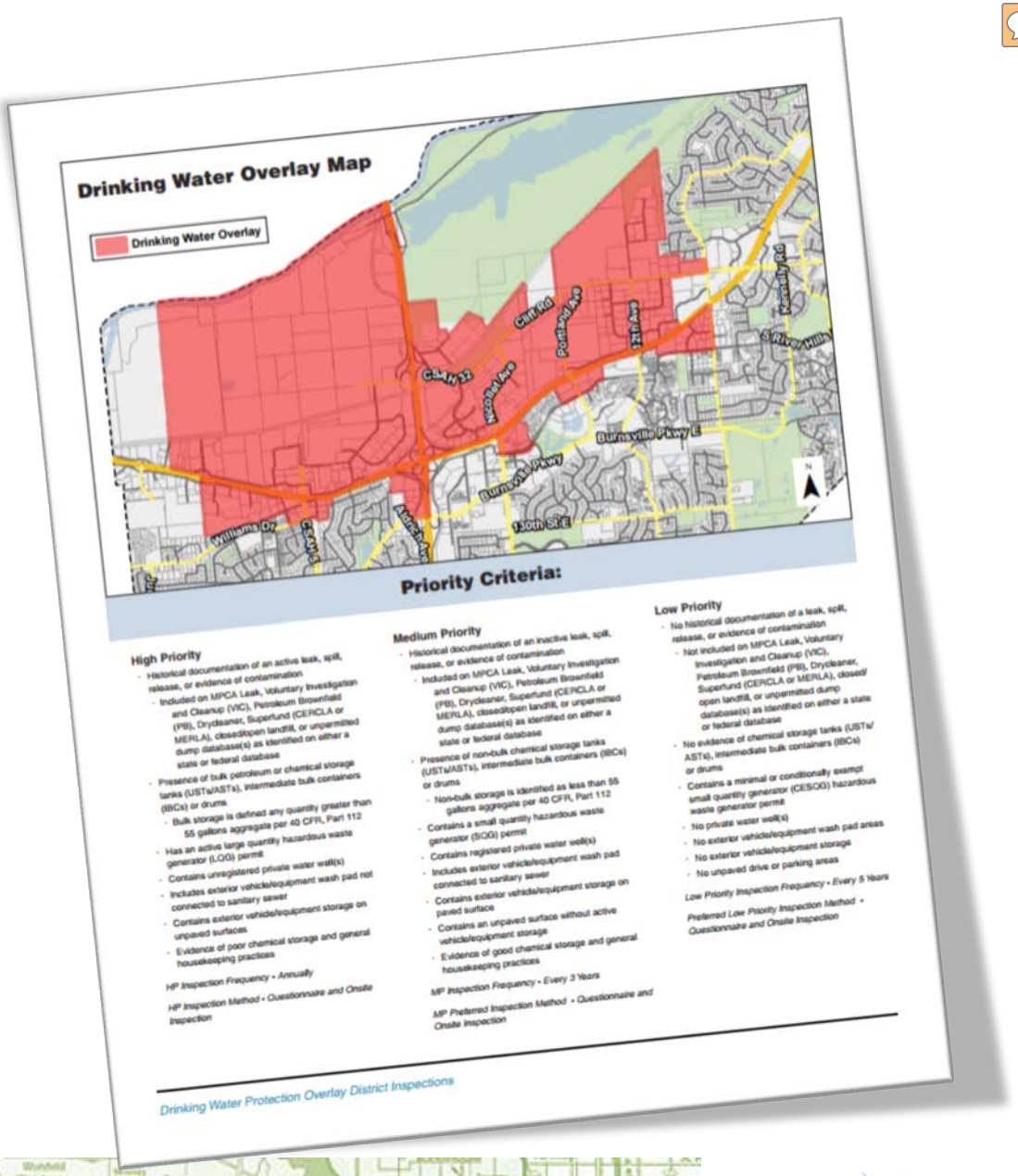
Enhancing Source Water Protection

- Acknowledge potential issues
- Determine if available information is adequate
- Work with partners to collect and share information
- Collaborate with neighbors and others to prevent the spread of contamination

Burnsville Example



http://www.ci. burnsville.mn.us/index.aspx?NID=1720

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Enhancing Collaboration

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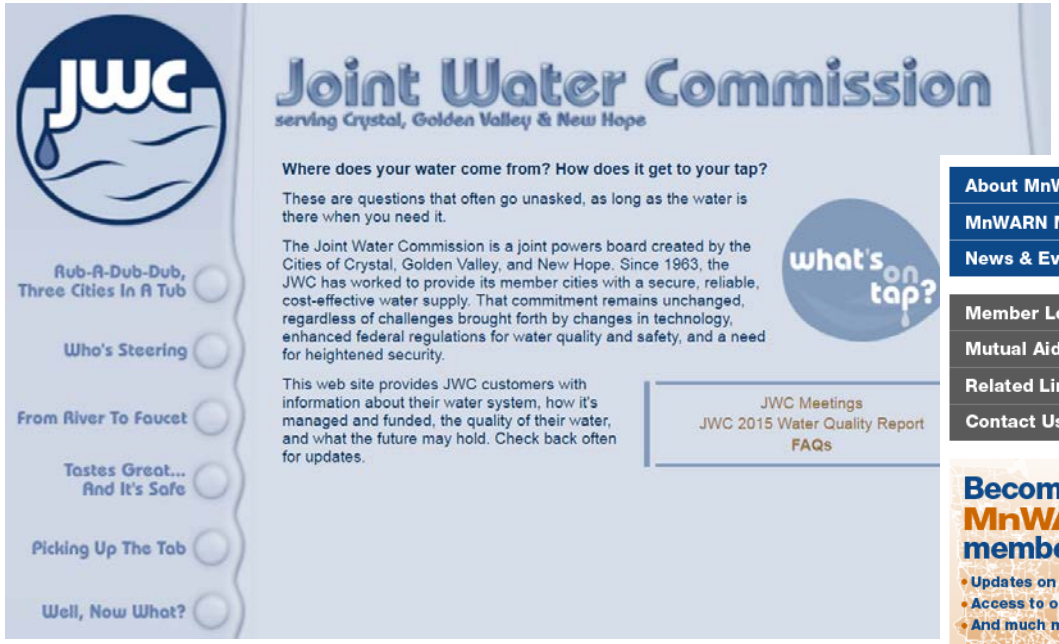
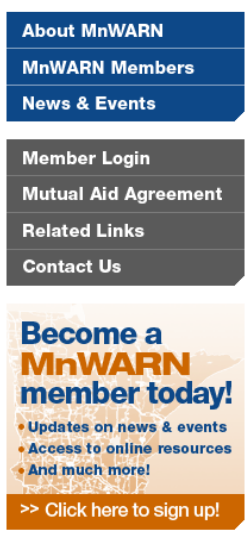
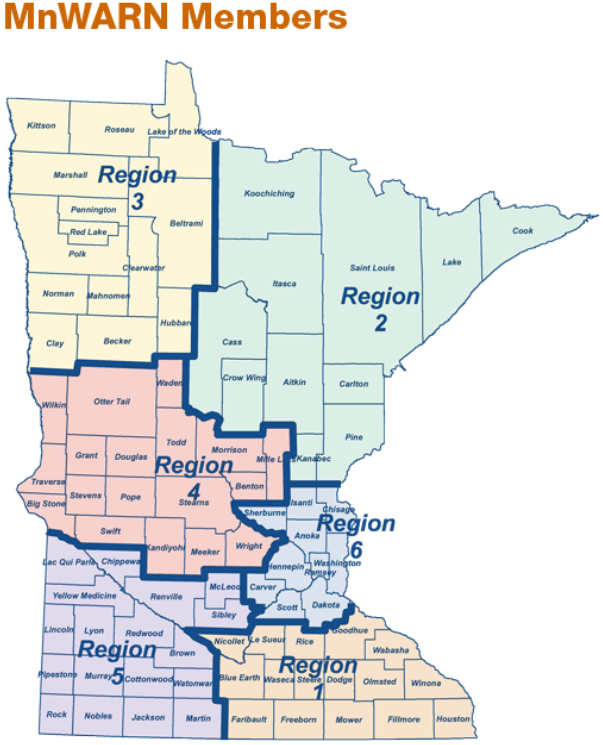
Collaboration







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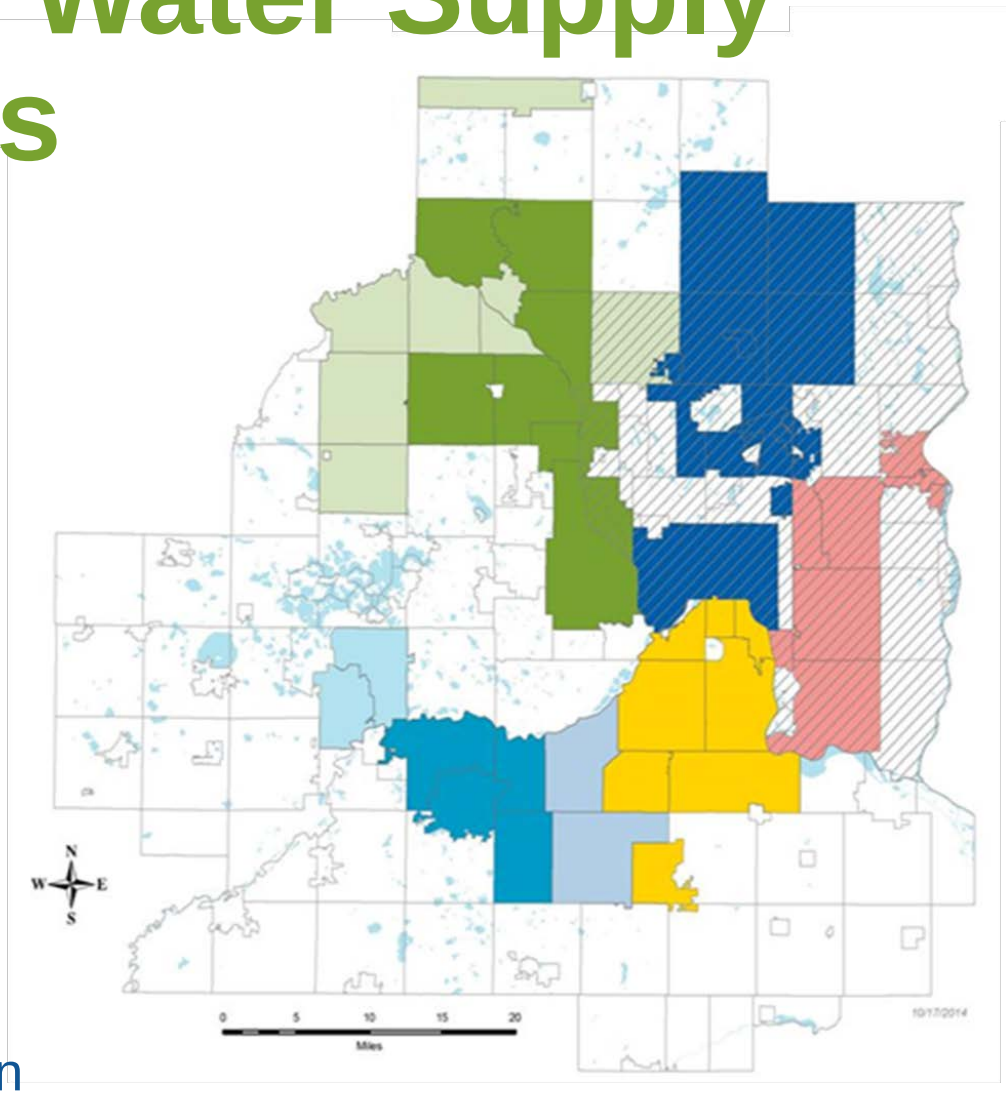
Subregional Water Supply Work Groups

- North East Metro
- South East Metro
  - Dakota County
- North West Metro
- South West Metro
- Washington County Water Coalition
- Seminary Fen
  - Chaska & Chanhassen



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Tools

WATER CONSERVATION TOOLBOX

Welcome to the Metropolitan Council Water Conservation Toolbox. On these pages you will find knowledge, ideas, and tools that are tailored to water conservation needs of the Twin Cities area. Staff from the Metropolitan Council has reviewed a wide range of literature, web sites, and calculation tools to find those that are best suited to our local climate and water concerns. Each of the four web pages below offer sources of information to answer common questions such as "Why Conserve?", "How do I compute my water consumption?", and "What can I do to conserve at my home or business?"

Step 1 – Select from the list below by answering this simple question: Who are you?

RESIDENTS & BUSINESSES

Information that all of us can use to understand more about our water consumption at home. Businesses will also find sources of information.

SUPPLIERS

Programs and practices that water suppliers could initiate to reduce system water losses, or set conservation rate structures that encourage conservation.

COMMUNITIES

Resources for elected officials, planning departments, and other municipal staff to reference that will assist in incorporating water conservation into local comprehensive plans. Also included is information useful to site plan review staff who are reviewing projects with water conservation features.

LEARNERS

Games and other fun learning for kids and adults. Includes information for teachers to use to create water conservation learning plans and family focused activity ideas.

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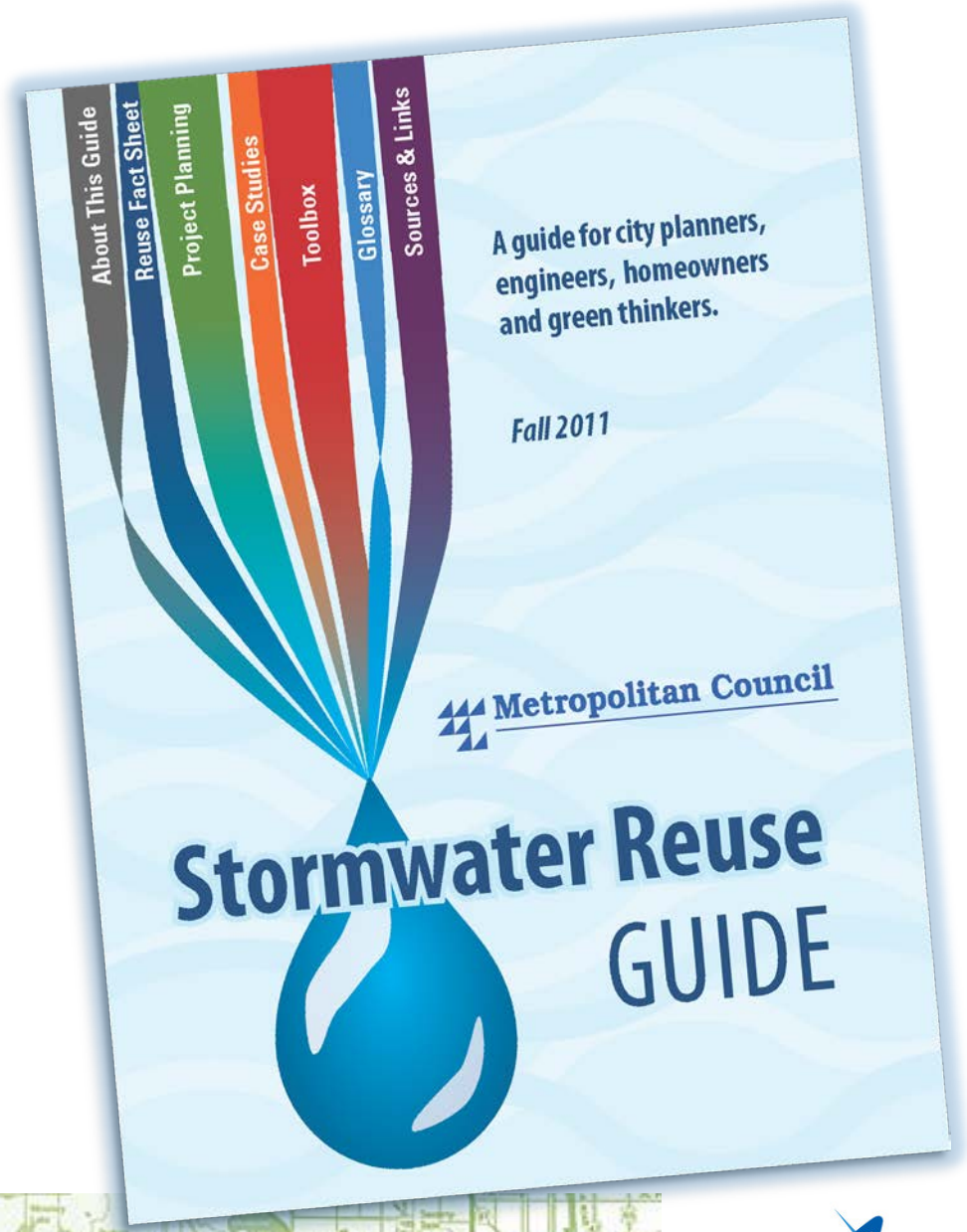
Tools


About This Guide
Reuse Fact Sheet
Project Planning
Case Studies
Toolbox
Glossary
Sources & Links
A guide for city planners, engineers, homeowners and green thinkers.
Fall 2011
Metropolitan Council
Stormwater Reuse
GUIDE

Resources

LOCAL PLANNING HANDBOOK

http://metrocouncil.org/Handbook.aspx

PlanIt

http://www.metrocouncil.org/Handbook/PlanIt.aspx

Community Pages

http://lphonline.metc.state.mn.us/commportal

METROPOLITAN COUNCIL

Questions?

Kyle Colvin, Assistant Manager (Wastewater)
Kyle.Colvin@metc.state.mn.us

Karen Jensen, Environmental Analyst (Surface Water)
Karen.Jensen@metc.state.mn.us

Lanya Ross, Principal Environmental Scientist (Water Supply)
Lanya.Ross@metc.state.mn.us

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Upcoming Events

Transportation Overview
Presented by Mark Filipi and Cole Hiniker
Thursday, August 18, 2016

Making your Plan a Walk in the Park
Presented by Jan Youngquist and Michael Peterka
Thursday, September 15, 2016

Transit Planning Basics, Market Areas, and Comprehensive Planning
Presented by Cole Hiniker and Michael Mechtenberg
Thursday, September 22, 2016

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